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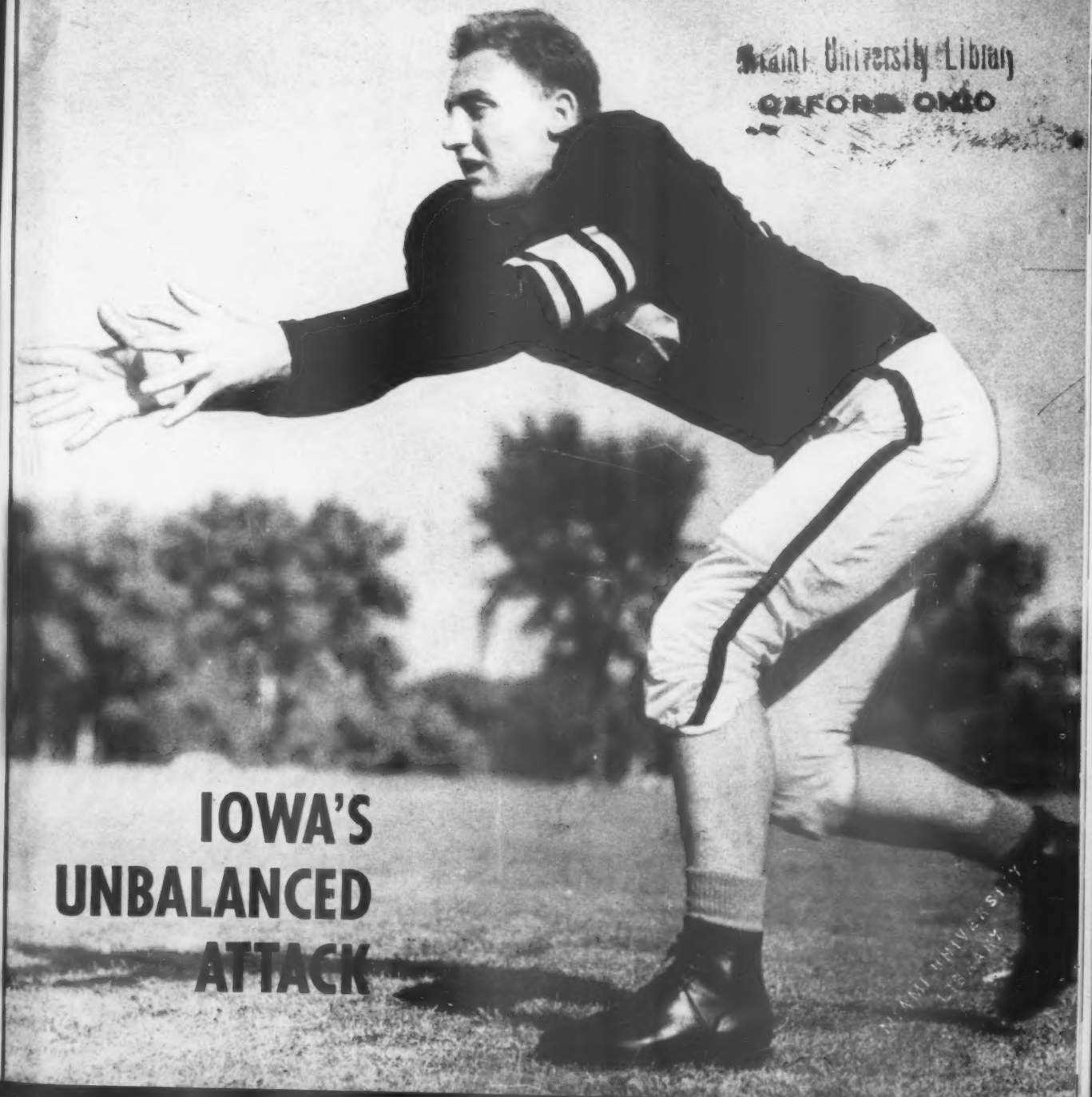

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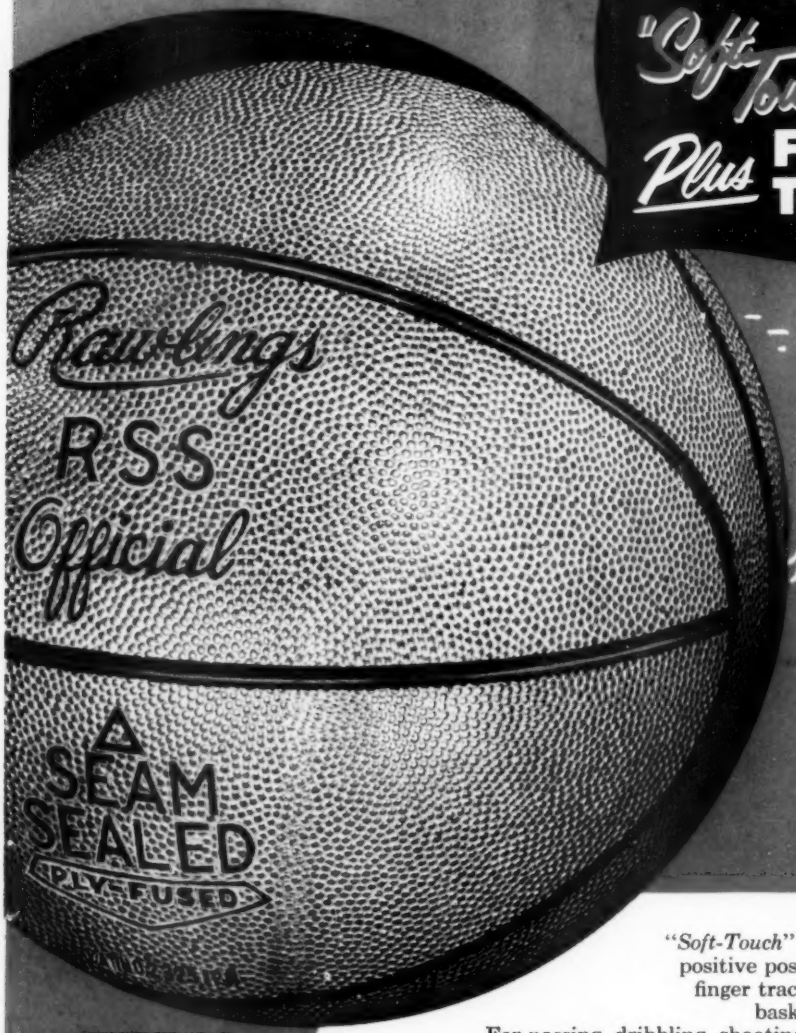

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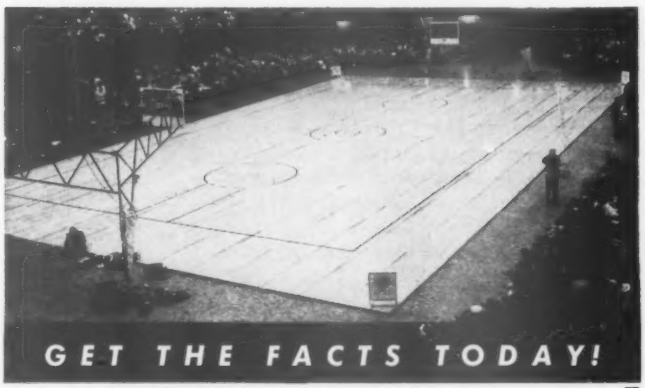

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FRONT COVER ILLUSTRATION

Iowa's unbalanced attack incorporated a variety of offenses and Lou Matykiewicz was one of the backs who steered this high-powered attack to a national ranking of ninth last season.

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from here and there

NOWADAYS air travel for athletic teams is very commonplace as most of the major college football teams use this form of transportation on trips of any appreciable length. The first college team to be transported by air was Michigan State's basketball team which flew to Milwaukee in 1929 for a game with Marquette . . . Speaking of Marquette, the newest addition to their staff is Bill Knapton who becomes assistant basketball coach. This past spring Knapton guided Stevens Point to the state basketball championship . . . One of the outstanding won and lost records for major colleges is that compiled by Oklahoma A&M. In the past ten years A&M has won 687, lost 224, and tied 20 intercollegiate athletic contests. Against Big Seven opponents and not considering ties, A&M has won 161 out of 257 contests. Against Southwest Conference opponents the Aggies have won 107 games or meets and only lost 26. The wrestling team leads with 58 victories out of 65 meets, and Hank Iba's basketball team is second with a very neat record of 245 wins and only 58 losses . . . R. E. Mattingly of Bowie, Texas, whose team won its fourth consecutive state championship last spring, has a victory string of 70 straight going. His team has not been defeated for three years. In nine years at Bowie his teams have won seven district play-offs. He has taken his team to the state tournament six times and his overall basketball record shows 255 wins against 32 losses.

* * *

MATHEMATICS is the most popular academic subject among the directors of the Texas Coaches Association. Five of the directors teach mathematics and two teach social subjects. The balance of the directors either teach physical education or are in administrative work with the athletic and physical education departments . . . This past spring Wisconsin made it mandatory that starting blocks be used in the state track meet . . . Don Swegan, Penn State's new assistant basketball coach, earned nine letters in three colleges and captained a sport at each school. He originally enrolled at Wooster but was transferred to Baldwin-Wallace under a Navy ROTC program. While there he was basketball captain. He was later transferred to Harvard where he competed in football, basketball, and baseball, being captain of the latter team. After the war he returned to Wooster and served as captain of the basketball team . . . Following USC with 51 NCAA track and field individual champions comes Ohio State, Illinois, Michigan, Stanford, California, Notre Dame, Penn State, and Marquette in that order. Of interest is the fact that a Texas school is not represented in this list when Texas holds such a strong second place position in the Athletic Journal's composite national high school track meet which appears annually in the January issue. Conversely, Michigan which ranks twenty-second in the states, based on the Journal's national high school meet, ranks fourth in the number of national collegiate champions produced by the highly talented track coaches who have served at the University of Michigan.

* * *

WISCONSIN high school basketball coaches voted overwhelmingly against any plan to widen the free throw line to 12 feet as has been advocated by some. The vote was 170 to 43. The keyhole design was also voted down by a vote of 169 to 34. . . Minnesota had what may have been the closest basketball tournament of all time. By that we mean the difference between the score for the winner and the loser was only 18 points. For seven games that is less than 3 points per game. The largest difference was 6 points. There were two games where the difference was 3 points, two games where the difference was 2 points, and two games where the difference was 1 point. One game was a double overtime contest. Also of interest were the low scores that prevailed in

(Continued on page 83)

at leading gyms from coast-to-coast the choice is Porter

New type Backstop is born in Texas

Charlton-Pollard High School in Beaumont, Texas, not only selected a new Porter-developed 247-B Gate-type Backstop to bridge a folding partition which cut the main court in half, but installed four Porter 217-B "Hoistaway" Backstops on the two parallel practice courts. Porter 208-B Rectangular Plywood Backboards are used on the "Hoistaways".

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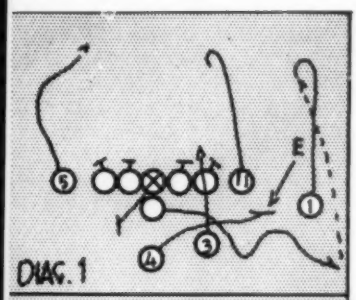
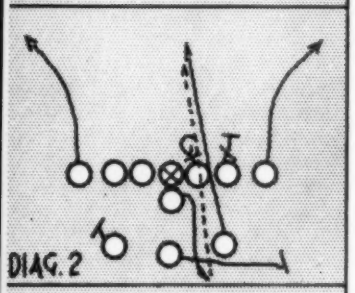
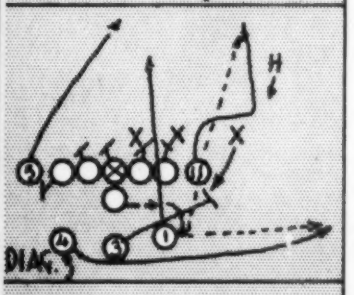
Opponents' Favorite Pass Patterns

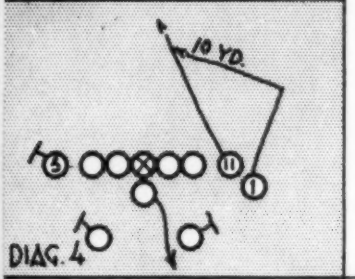
By DR. DON VELLER
Professor of Physical Education, Florida State University

DR. DON VELLER needs no introduction to the readers of this publication, having prepared a number of articles for us in the past. Since relinquishing the coaching reins at Florida State to devote full time to his duties in the Physical Education Department he has mulled over voluminous football notes collected through two decades of coaching. These notes form the basis for his thought-provoking articles.









WHILE going through old scouting notes and game movie analyses which had accumulated during our five years as head football coach at Florida State University, we decided that it might be a good idea to pass along some of this information. As a result, the most successful pass patterns of our opponents were compiled to comprise the content of this article. These pass patterns have proved themselves under game conditions and they represent hours and hours of study by some mighty fine coaches. We will add that they also represent hours and hours of work on our part in worrying and attempting to devise workable defenses for them.

The play, which is shown in Diagram 1, leaves a most disagreeable taste in our mouths because this pass, completed against Florida State University for a touchdown in 1948, prevented us from enjoying an undefeated season that year. The quarterback faded back to pass and our secondary covered well. Then when he ran up towards the line of scrimmage our defensive left halfback came up to meet him and thus left the flanker wide-open.

Diagram 2 shows a successful pass which was used from the split T by one of our Southern Conference opponents. It is incredible how quickly a fast right halfback can get behind a safety man who is playing close (as they often do against the split T). The pass is even better when the defense is deploying two men deep instead of one.

The play, which is shown in Diagram 3, went for several touchdowns when overzealous left halfbacks came up too fast to stop the companion running plays. When the halfback stayed back No. 4 was open.

In the play, which is shown in Diagram 4, No. 1 runs as pictured, intending to receive the ball about 10 yards deep along the path just covered by No. 11.

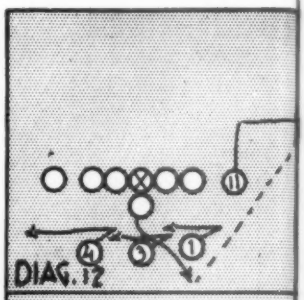
Diagram 5 shows a pass which was used by another one of our Southern Conference opponents that used the I formation. The quarterback fakes to Nos. 1 and 4 and then No. 4 becomes the favorite receiver.

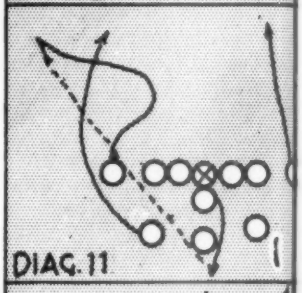
Diagram 6 shows a pass which is hard to stop, especially if the passer is able to run back to his left and throw well.

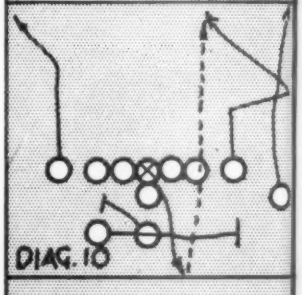
The pass, which is shown in Diagram 7, is confusing to an inexperienced secondary because of all the crossing. One of our opponents, using the shuttle T formation, frequently completed the pass which is shown in Diagram 8.

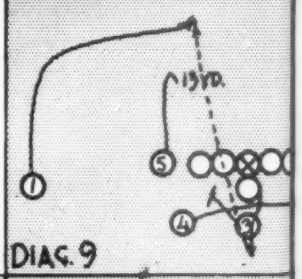
We saw the pass, which is shown in Diagram 9, completed for a touchdown against one of the best independent college

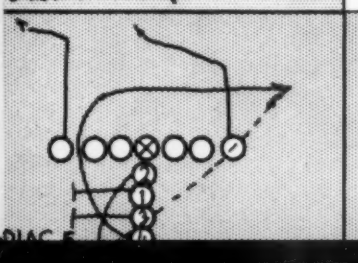
(Continued on page 87)

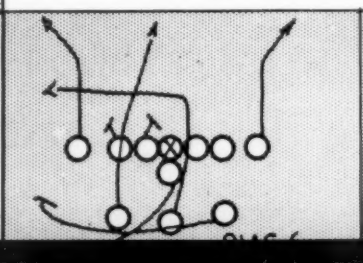


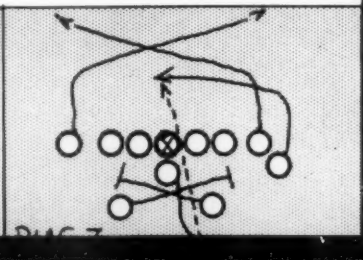


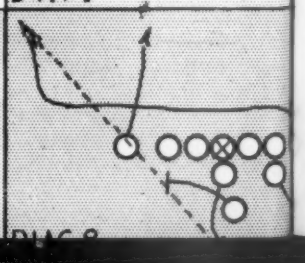


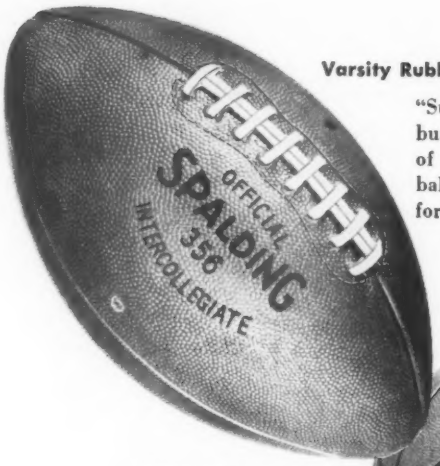












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Iowa's Multiple Unbalanced Attack

By **FOREST EVASHEVSKI**
Head Football Coach
University of Iowa

THE multiple offense we are using at the University of Iowa consists of a split T, tight T, and single wing from an unbalanced line. In our unbalanced split T our players are split at least one yard per man, and we give the linemen the option of splitting on any particular play that is called, as far as they want to go. They are told to go only so far, depending upon the placement of the defensive men. With a split T we use a flanker 90 per cent of the time and flank either right or left. Our players flank to a blocking position with the halfback so we have an end-wing combination. The remaining two backs are placed in the hand-off spots where they can hit either side with quick-openers.

Using the tight T unbalanced line, our ends are out approximately one yard, and the tackle has a free foot. We make the tackle liquid and permit him to take any position from which he can best carry out his assignment.

Our other offense is the single wing. We run both a deep wing and an up wing; that is, the halfback is heel-to-toe in depth with the fullback or as a wingback, a yard behind and a yard outside of our own right end.

In principle we run two offenses, the split T and the single wing, because our blocking rules for the tight T are the same as those which apply to the single wing.

Normally, our boys come out of the huddle into our split T offense with a flanker either way. If they flanker right, it is with the right halfback; if they flanker left, it is with the left halfback. The backs keep their same relative positions. For example, if we are flankered right and shift to the single wing or tight winged T, the right halfback who is already flankered will shift in with the line to keep his same relative position. If we are flankered left and shift to the single wing or wing T, the left halfback who is flankered will shift back; the right halfback will shift up as a flanker, with the fullback shifting over to his normal fullback position.

We believe that a multiple offense does away with many of the problems of changing defenses. It is our feeling that presenting three or four offenses has a tendency to limit our opponents to the use of one adequate defense without too many variations against any one particular type of offense we use.

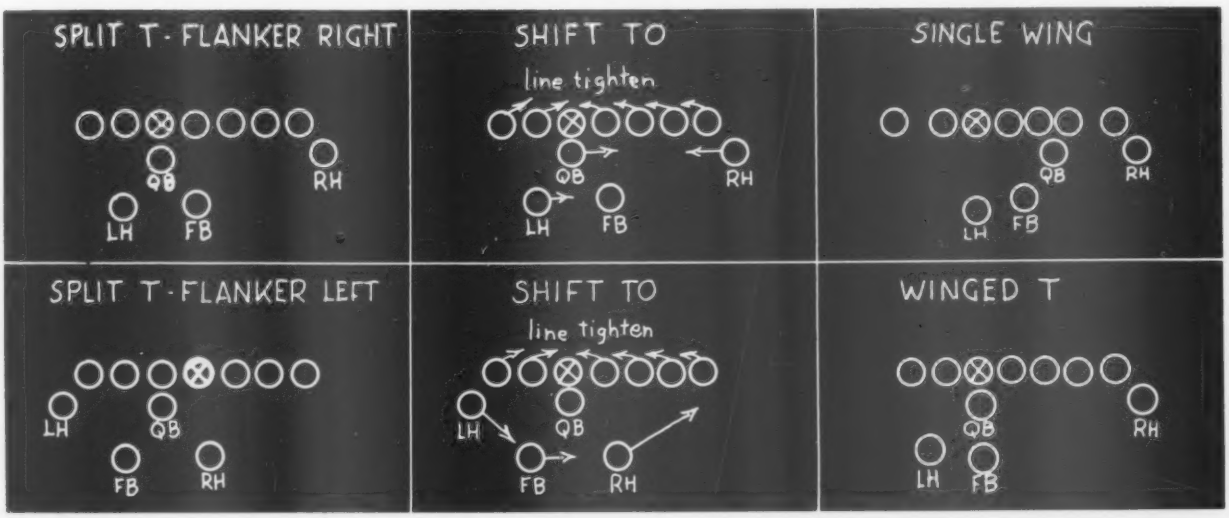
Another problem which is faced by a team that is to play against a multiple offense is the difficulty of finding an adequate preparatory group which can run the opposing team's plays. We use a freshman group and run into considerable difficulty getting these boys to run the offense well enough to furnish strong opposition. In our opinion, when another team has to get a demonstration group to run a split T, a tight T, and a single wing, they are not going to get a great deal of benefit from this group, due principally to the inability of these players to simulate three different offenses.

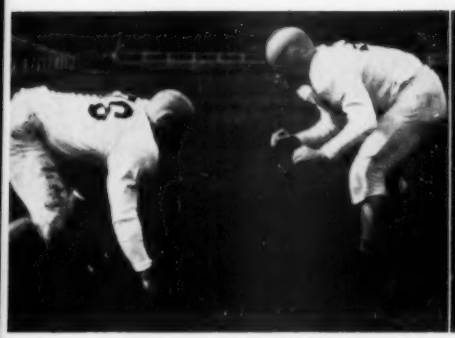
We also feel that by using a multiple offense, we find a team usually is not well prepared defensively to stop all of our offensive formations. Thus, we are able to concentrate a particular phase of our attack against any defensive weakness.

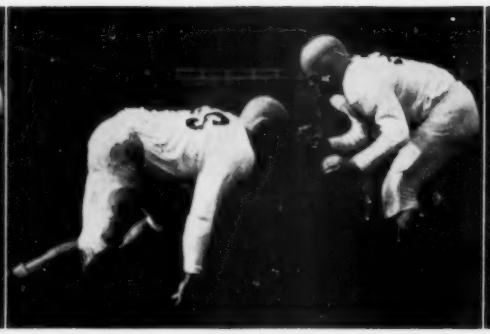
We believe that the advantages

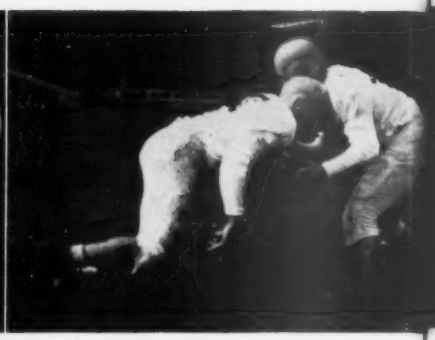
(Continued on page 60)

FOREST EVASHEVSKI served as captain of the Michigan team in 1940 and began coaching the following year at Hamilton College. He quarterbacked the Iowa Pre-Flight team during the 1942 season. "Evy" assisted "Biggie" Munn at Syracuse during the 1946 and '47 seasons and moved with "Biggie" to Michigan State. After two years he was appointed head coach at Washington State. In 1952 he was signed as head coach at Iowa and last year guided the team to a final rating of ninth in the country.









Line Play in

Iowa's Multiple Unbalanced Attack

Series A

By BOB FLORA
Line Coach, University of Iowa

LINE play, using the multiple offense single wing plus the unbalanced split T, presents three major problems: 1. The type of stance to be used. 2. Utilization of practice time. 3. Pass protection.

During the past two years we have experimented with several stances for our linemen. We started out with the conventional balanced stance which is used for the single wing. Very little weight is placed on the player's hand, his back and shoulders are parallel to the ground, and one leg is dropped so that his toe is even with the instep of his other foot. This stance is required for our pulling linemen.

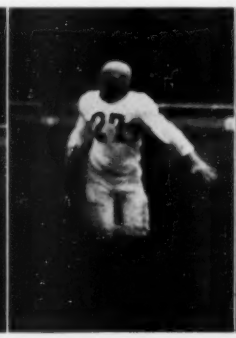
We tried a combination stance which could be used for both the single wing offense and split T where a little more weight was put on the player's hand; his back foot was dropped a little more, with the emphasis on his weight being forward. This past spring we experimented and used the conventional single wing stance for our single wing offense and a typical split T stance emphasizing weight on the player's hand. This combination was not satisfactory because it resulted in our linemen not being able to use either stance effectively. Finally, we returned to our original stance which is the single wing stance because we are primarily a single wing team. The amount of coaching needed for teaching the stance has been minimized. On our split T we emphasize quick contact, working up and through the man after making contact, and working for position. We are not concerned with the fine techniques because there is not time to teach them when we are using two distinct offenses. This stance is the best one we have found to date and the most effective for our type of offense (Series A).

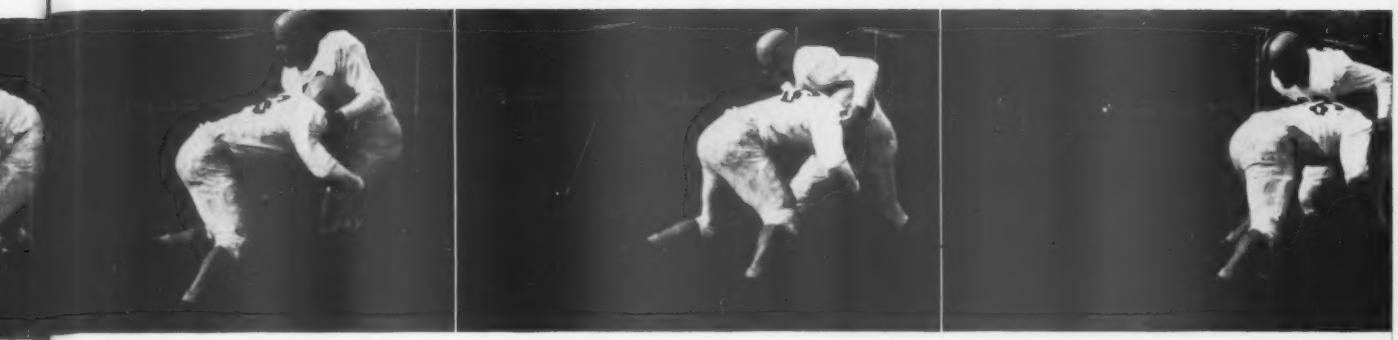
In coaching single wing line play a coach becomes more or less grooved in the type of drills he uses. In addition to pass protection and lead post blocks, he has to work on downfield blocking and traps. If the split T techniques are added to these drills, the coach will find that he has to cut down on the number and type of drills used. One offense cannot be sacrificed at the expense of the other. We have tried to cut our drills down to a minimum, particularly on the split T. One split T drill is used almost exclusively for our linemen because it combines all the techniques that are needed. It is a man-for-man drill, and we stand back of the defense and give hand signals for the different blocks. The coach can point for a block to the right or the left, and have a separate signal to indicate standard pass protection and chop blocks for automatic passes. Thus, all the techniques which are used in our split T offense are covered. Usually, we use one line against another, keeping the units intact. This drill is used every day in addition to our single wing blocking techniques, and we find it keeps our split T offense fairly well polished.

The third problem in using the unbalanced split T is pass protection. We say this because we have to work much harder on split T protection than on single wing protection. With

(*Continued on page* 60)

BOB FLORA graduated from Michigan in 1942, where he was a teammate of Evashevski's, and after service in the navy Pre-Flight program began his coaching career at Niles, Michigan, High School. He went to Michigan State in 1948, followed Evashevski to Washington State in 1950, and in turn to Iowa in 1952.





End Play in

Iowa's Multiple Unbalanced Attack

By HENRY PIRO
End Coach, University of Iowa

GOOD offensive end play starts with a sound fundamental stance in order to enable the ends to perform the following skills: 1. Block tackles, linebackers, and halfbacks. 2. Catch passes, become ball-carriers, and act as decoys. 3. Cover punts.

Stance

Our ends use the same stance for split T and single wing techniques, with one exception, they are instructed to put more weight on their forward hand in the split T. They are required to take a high three-point stance with their feet spread about shoulder width, and their right toe opposite the instep of the left foot. We ask our ends to split at least a yard, or more, if it helps them carry out their assignments. After shifting, the right end lines up approximately two feet from his tackle, and the left end at least one yard from the weak-side guard.

HENRY PIRO graduated from Syracuse and played one year of pro ball before serving in the air force during the war. Following the war "Whitey" coached at The Citadel during the 1946 to '48 seasons. He served as end coach at the University of Utah during the next three seasons, joining Evy's staff in the spring of 1952.

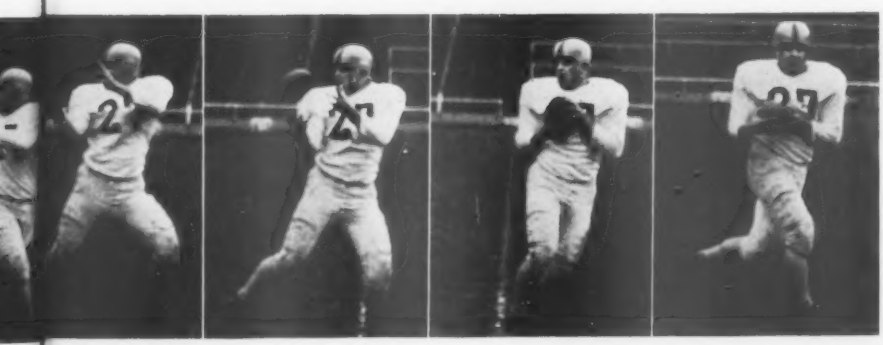
Offensive Blocks

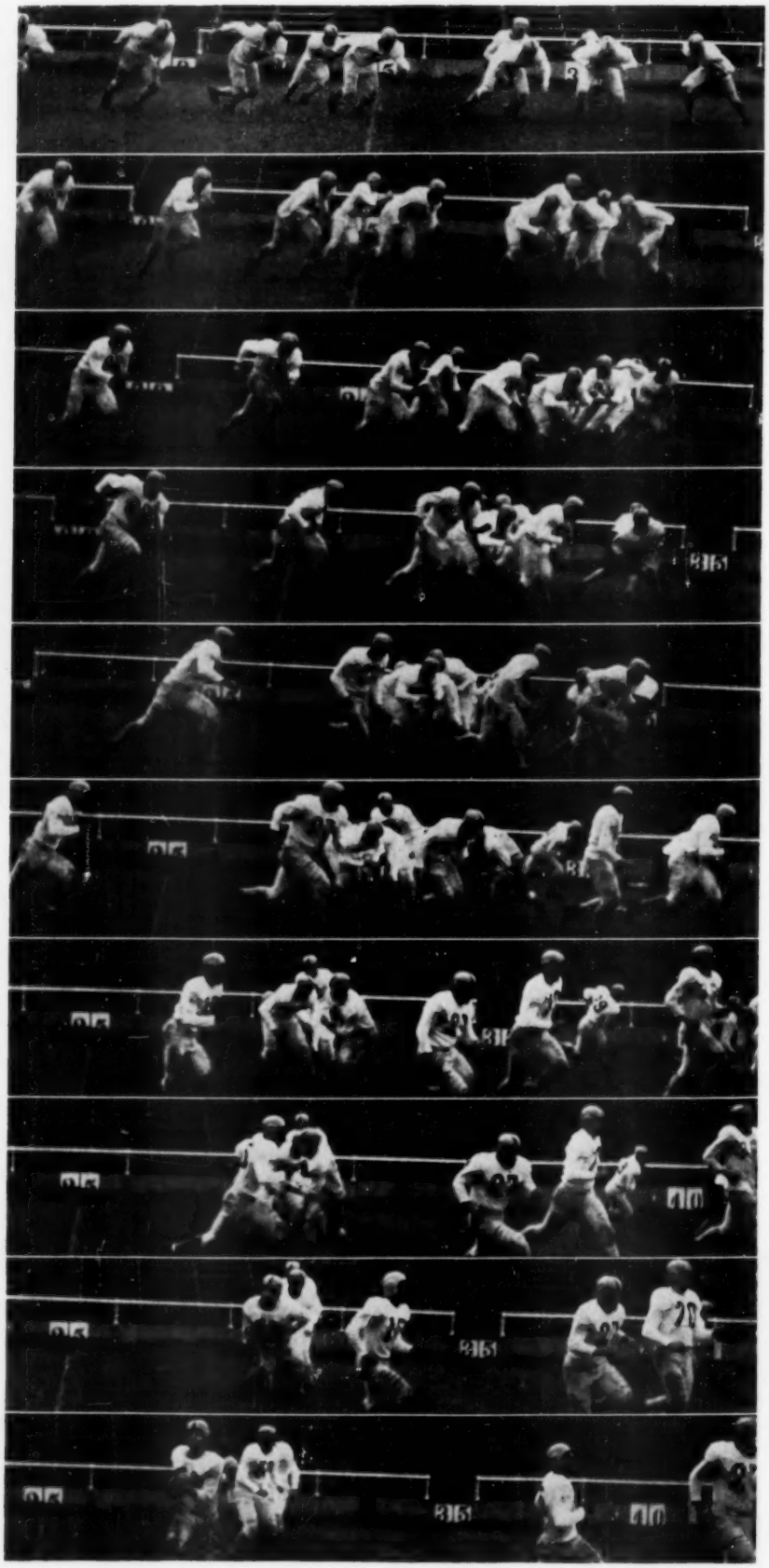
We are mainly a straight shoulder blocking team, and as such concentrate on straight shoulder blocks in our group work. Man-for-man drills are used for the split T and post-lead drills for the single wing. We stress a fast, firm, high contact in split T drills. Our ends are taught to coordinate their heads, forearms, and shoulders upon contact. The end brings his feet underneath, placing them in position to drive up and through the lineman laterally. The stress is upon contact, control, and then position. His object is to keep his head and shoulders between the lineman and his ball-carrier as shown in Series A.

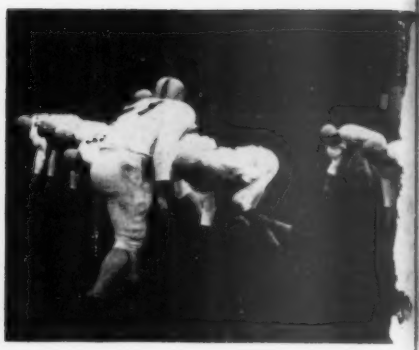
The next important block to consider is the post-lead block which is used by the end-wing combination in our multiple offense. The end's job as a post blocker is to prevent penetration and set the defensive tackle up for the wingback to block laterally down the line of scrimmage. He aims high for the defensive tackle's chest, taking position directly in front of the tackle. The end does not have any follow-through drive. After contact has been made by the wingback, the end closes the gap between the wingback and himself. Then as the lead blocker drives the defensive man laterally, the end pivots with the block and drives shoulder-to-shoulder with the wingback. The lead block for the ends is a low straight shoulder block. However, we stress position, contact, and follow-through. The important thing for the ends to remember on this block is to lead off with the foot closest to the defensive lineman instead of just pivoting on the close foot.

Our ends are also taught to use a reverse shoulder block on driving linemen who charge to their inside. On quick sweeps we ask our ends to block the man on or just to his outside shoulder. A side-body block is used for quick contact, shooting the end's head and shoulder past the defensive lineman's hip, bringing his outside foot with him, and driving off it in the opposite direction of the ball-carrier's path. In blocking linebackers and halfbacks, the ends use the shoulder and reverse shoulder

Series B







blocks with an occasional side-body block, depending on the defensive charge. Our cut-off blocking theory is to stay as close to the scrimmage line as possible, and never look back for the ball-carrier. The ends should run low with their feet well apart and never pass up one defenseive man to get to another.

Pass Receiving

We feel that in order for an end to be a good pass receiver he must have good hands and the ability to remain relaxed when running fairly fast. Catching the ball with the fingers, while running in full stride, is stressed. The end's thumbs should be pointing out and his elbows should be tight to his body, in order to form a basket as shown in Series B. The end never takes his eyes off the ball and he should always look the ball into his fingers. Even if the ball is thrown behind his back he pivots with it.

During a passing drill against defensive halfbacks we place a defensive lineman or linebacker in front of our offensive end and have him leave the line of scrimmage under game conditions. The various stunts used are as follows: 1. Head fake to the inside and slide outside. 2. Bear crawl—the end shoots outside the defensive man on all fours and comes upright when he gets past him. 3. Contact and go—the end makes initial blocking contact on the defensive man, releases, and slides outside. 4. Contact and roll—the end makes initial blocking contact, rolls or spins on the defensive man to the outside.

The end runs for his spot unless he thinks he has the defensive halfback in position where he can either fake, use a change-of-pace, or make a wrinkle to deceive him. Then he drives off his far leg in the direction

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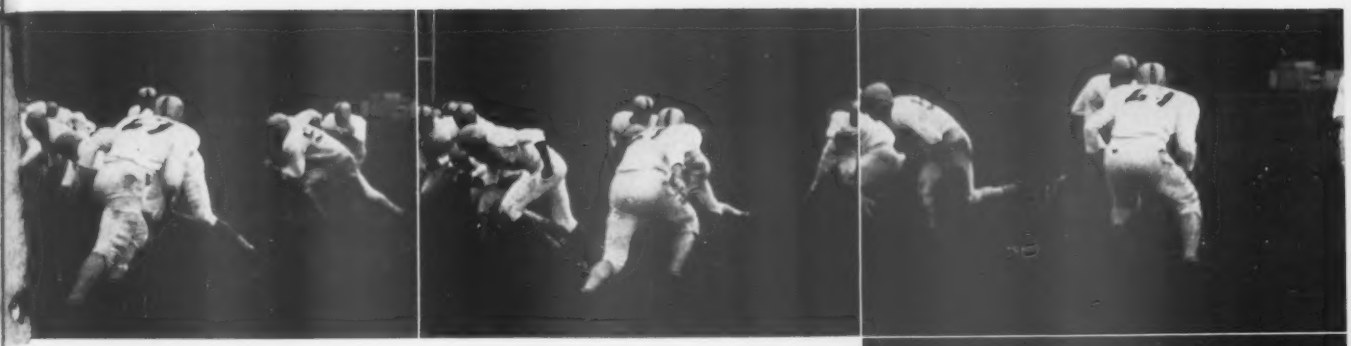
Series C



Backfield Play in

Iowa's Multiple Unbalanced Attack

By CHALMERS ELLIOTT
Backfield Coach, University of Iowa

THE qualties we look for in backfield men at the University of Iowa include speed, agility, ability to pass and receive a pass, and the ability to block. Although we seldom find a candidate for our varsity who possesses all these talents, we feel correct placement of our men depends on these factors.

In selecting the halfbacks it is important that they have speed, pass catching ability, and be able to block fairly well. They are required not only to carry the ball, but also to block against defensive linemen. In the case of backfield men size can be an asset.

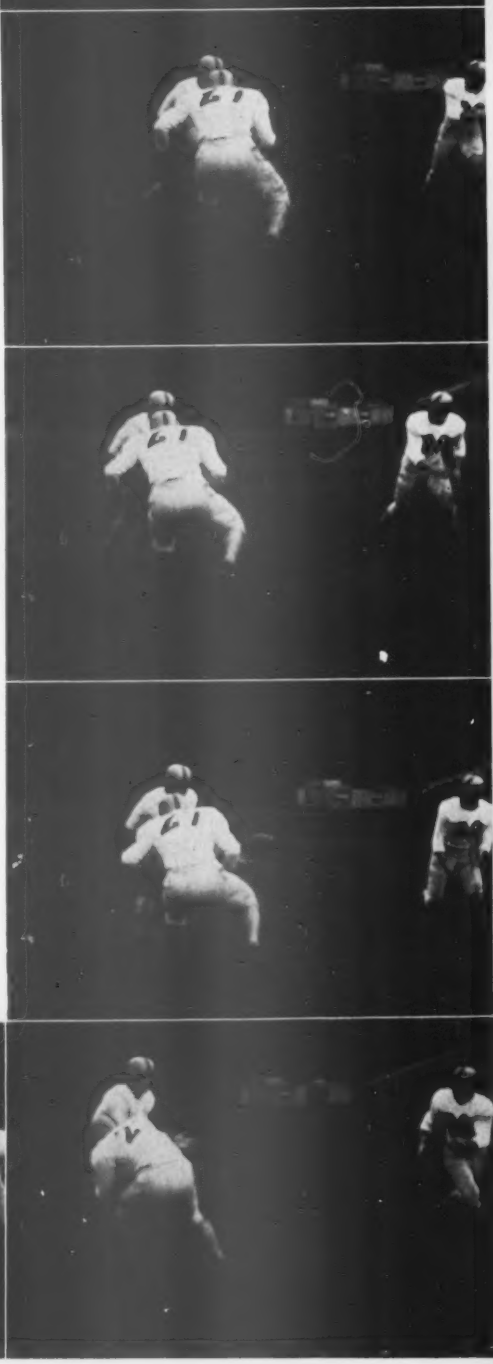
Our fullback does the greater part of our inside running; therefore, he must be an exceptional blocker. Because we use a multiple offensive setup, he is required to be a ball-handler as well. However, blocking ability is the main requisite for our fullback.

The quarterback should be an exceptional ball-handler, a good runner, and passer. In addition, we try to find a boy who has leadership ability and a keen football mind. In any multiple offense quite a load is placed on the quarterback, so he must have considerable experience in order to select the plays properly.

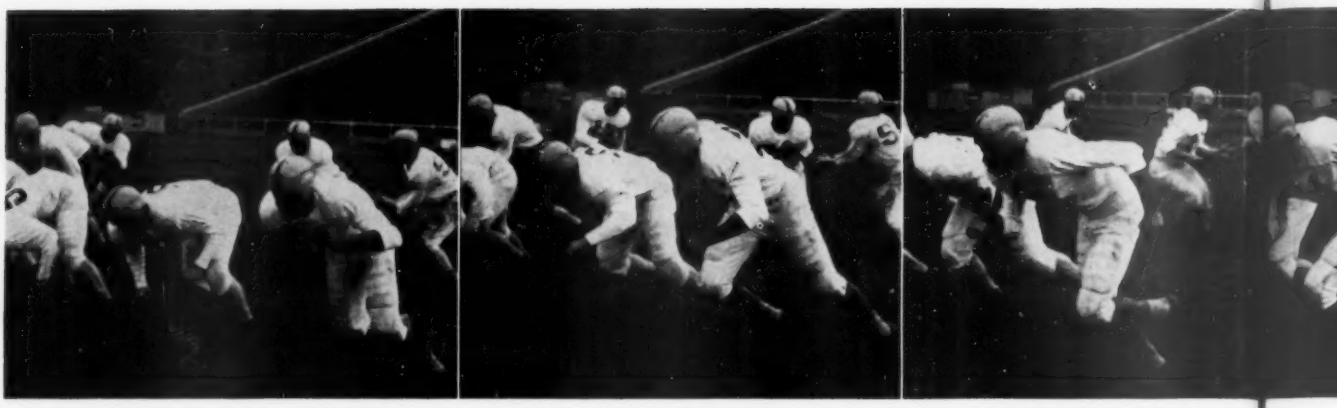
If it is to be executed properly, Iowa's offense forces the backfield men to use several types of stance. The halfbacks and fullback use the three-point and semi-sprinter's stance in the T formation. This stance gives a quicker forward start, reduces leaning and in-motion penalties, and conceals the back's movements from the defense. When the back is in the semi-sprinter's stance he should be leaning forward with a great portion of his weight on the hand that is down. His inside hand is down and his inside leg is extended to the rear, with his outside arm resting on his outside knee.

Since we always have a flanker or wingback from this formation, our fullback slides over to take the position of the halfback who has gone. Thus, our fullback has become a halfback in action and he uses the same stance.

In our split T formation we instruct the quarterback to crowd the center. His feet should be spread in

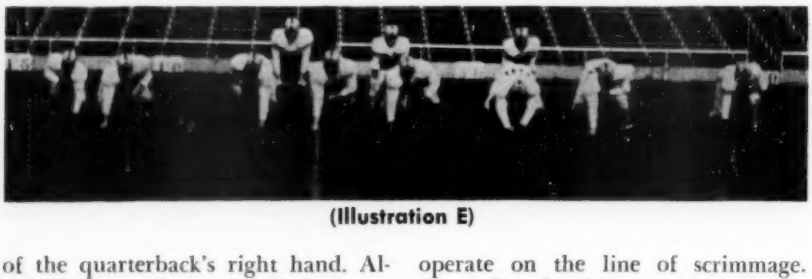


Series D



Series F

a comfortable position and his knees flexed. His hands are placed in the center's crotch, with his left hand on top and his right hand underneath. The base of his hands will be tight together, so the ball cannot slip through as the exchange is made. The ball will then be placed with the long axis parallel to the line of scrimmage and the laces along the fingers of the quarterback's right hand. Although this exchange is a little slower than the accepted one used in the split T, we feel it is safer and gives our quarterback a better opportunity to throw a quick pass. Pressure must be kept on the center's crotch at all times by the quarterback's left hand.



(Illustration E)

Series G

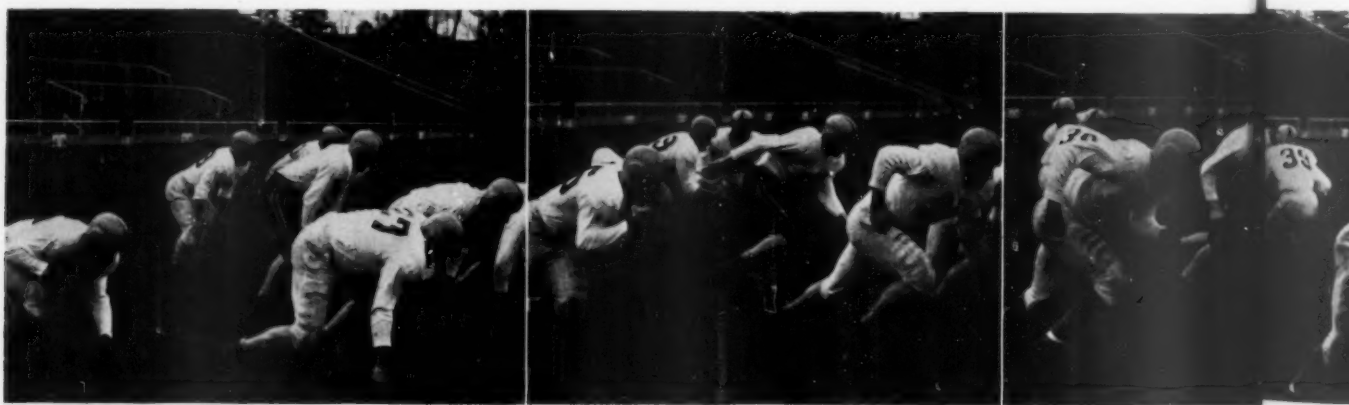
When the ball is passed back both of the quarterback's hands should have equal distribution on it.

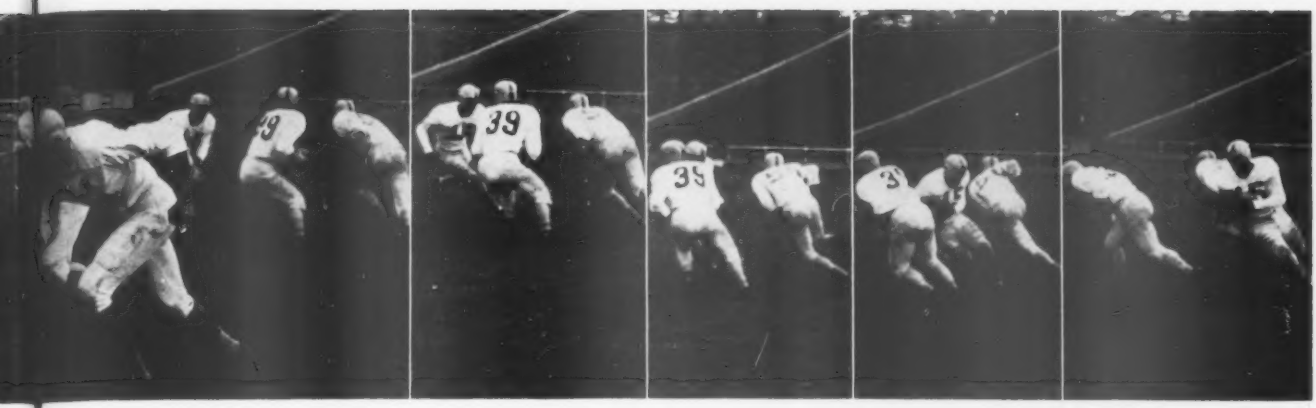
On all our split T plays we drill the quarterback to follow the center forward as the ball is snapped, and the center moves forward to block. In following the center forward the quarterback takes a short forward step with his right or left foot, depending on which foot the center moves first. The quarterback must operate on the line of scrimmage. Once the play has started, it is the quarterback's responsibility to get the ball to the ball-carrier.

In plays going straight ahead, the halfback, as he comes forward, raises his inside arm chest high and parallel to the ground. His outside arm rests on his hip with his fingers extended. The quarterback shoves the ball across the halfback's stomach. The halfback's outstretched hand stops the ball and his inside hand curls over it. We insist that our halfback keep both hands on the ball until he and the quarterback have passed the line of scrimmage (Series C).

On pitch-out plays the quarterback slides down the line and fakes to the halfback, who fakes hard into the line and turns his back to the outside, in order to shield the ball from the defensive end. The other halfback moves laterally and keeps four and one-half yards from the quarterback. When the quarterback passes the diving halfback he comes under control and makes his decision to pitch or keep the ball. If the end floats, the quarterback will keep it; if the end closes to the inside, then the quarterback laterals the ball underhand to the halfback. It must be emphasized to the quarterback that he must always watch the end's movements so the correct decision can be made. The back who has gone to a wingback position blocks on the inside of the hole, if the play is toward him, or he will go downfield to the cut-off if it is away (Series D).

When we shift to the single wing then it is necessary for the backs to use an upright stance with their hands





placed on their knees in a comfortable position. Their weight should be on the balls of their feet with their heads and eyes forward. This stance is used because of the complexity of the backfield maneuvers and the danger of fumbles occurring from a three-point stance.

As stated earlier, the backs will line up literally in the T formation with a wingback either to the right or left. We will then shift to a single wingback formation to the right on a pre-arranged signal. The new positions assumed will require the wingback to move in from his original spot to a place one yard outside and one yard back of the offensive right end, and the quarterback to move away from the center so that he will be one yard back and splitting the seam of the second and third men on the right side of the line. The fullback will move back to his left, and the left halfback will move to his right. They assume positions so that either may receive a direct pass from center (Illustration E).

The ball-handling techniques used in the single wing at Iowa can be divided into three distinct categories: 1. Direct pass to the tailback. 2. Direct pass to the fullback who spins to the left or right halfback. 3. Direct pass to the fullback who will move forward and work with the quarterback on the buck lateral series.

The first method does not require any ball-handling other than receiving the pass from center, with the exception of a front hand-off by the tailback to the right halfback on a reverse play. In this technique it is the responsibility of the back who gives the ball to place it in the pocket formed above the belt by the receiving back.

CHALMERS ELLIOTT played for Purdue as a marine trainee and following the war enrolled at Michigan where he averaged 5.5 yards per rush in six conference games on the 1947 team which went to the Rose Bowl. "Bump" started coaching as an assistant at Michigan in 1948 and the next three seasons served as backfield coach at Oregon State, joining the Iowa staff early in 1952.

The spinning technique again places the responsibility of the hand-off on the man who is giving the ball away. He must keep his eyes on the target and place the ball with the long axis along the belt line of the back who is receiving the ball, making sure he places it firmly but does not slam it. The man who receives the ball does not reach for it, but merely places his hands below his belt line with his palms upward. His hands should not be more than three or four inches away from his body so the ball does not slip down behind them (Series F).

If the spin back is to keep the ball, he will fake to the left halfback with the ball hidden from the defensive tackle and end. An important coaching point is to make sure the fullback's back is to these defensive men when the exchange or fake is executed (Series G).

Another type of exchange is the one used in the buck lateral series. In this exchange we have the quarterback pivot in his tracks, and cup his hands directly below his waist on his right thigh. The palms of his hands are facing each other with room for the ball to slide in and the heels of his hands are used as a backstop about three inches apart. His hands are held steady, and the quarterback must

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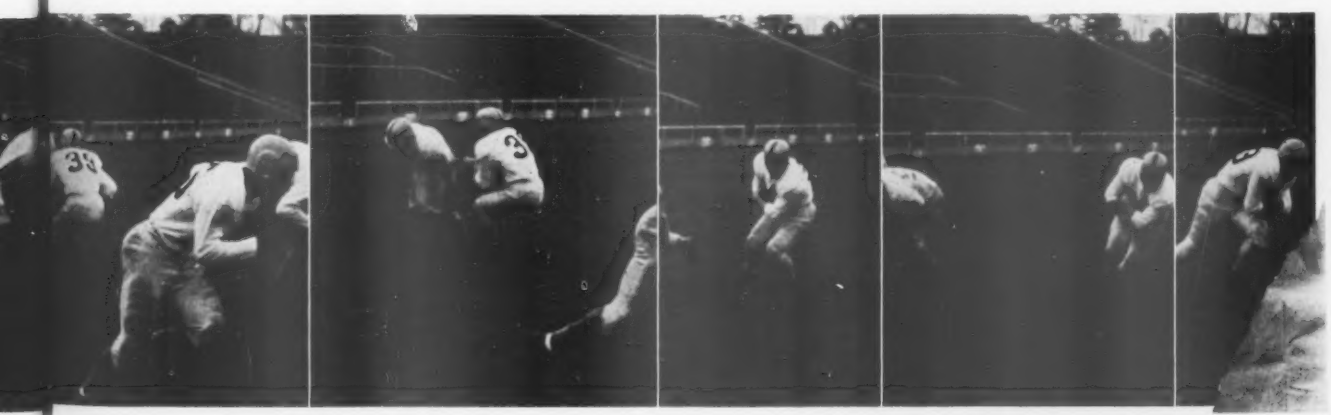
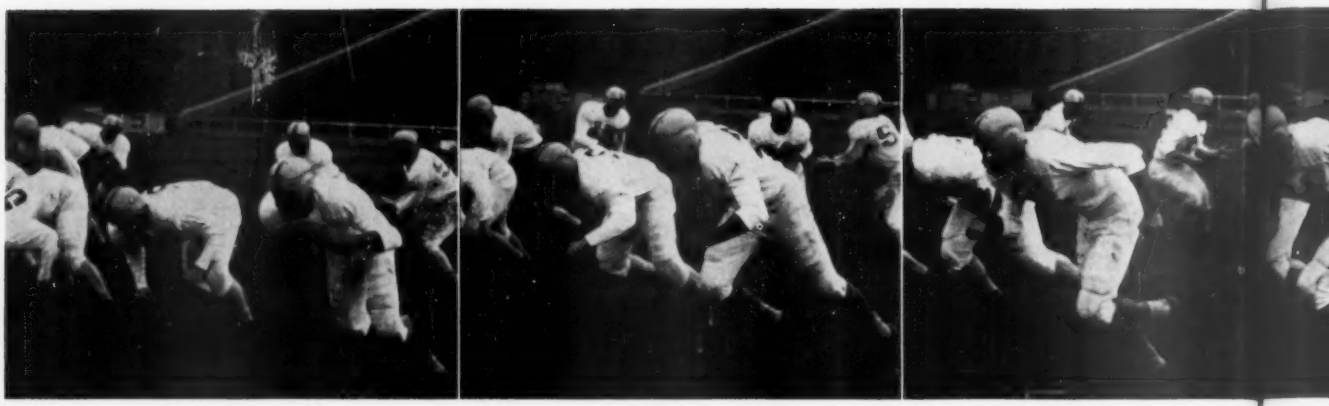
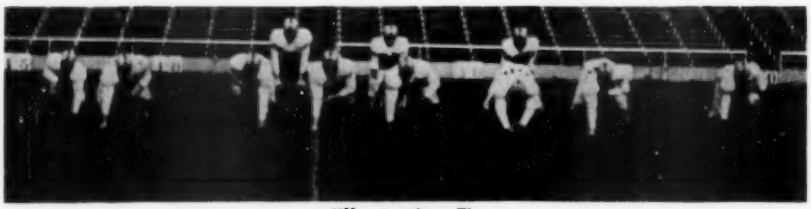




Series F

a comfortable position and his knees flexed. His hands are placed in the center's crotch, with his left hand on top and his right hand underneath. The base of his hands will be tight together, so the ball cannot slip through as the exchange is made. The ball will then be placed with the long axis parallel to the line of scrimmage and the laces along the fingers of the quarterback's right hand. Although this exchange is a little slower than the accepted one used in the split T, we feel it is safer and gives our quarterback a better opportunity to throw a quick pass. Pressure must be kept on the center's crotch at all times by the quarterback's left hand.



(Illustration E)

Series G

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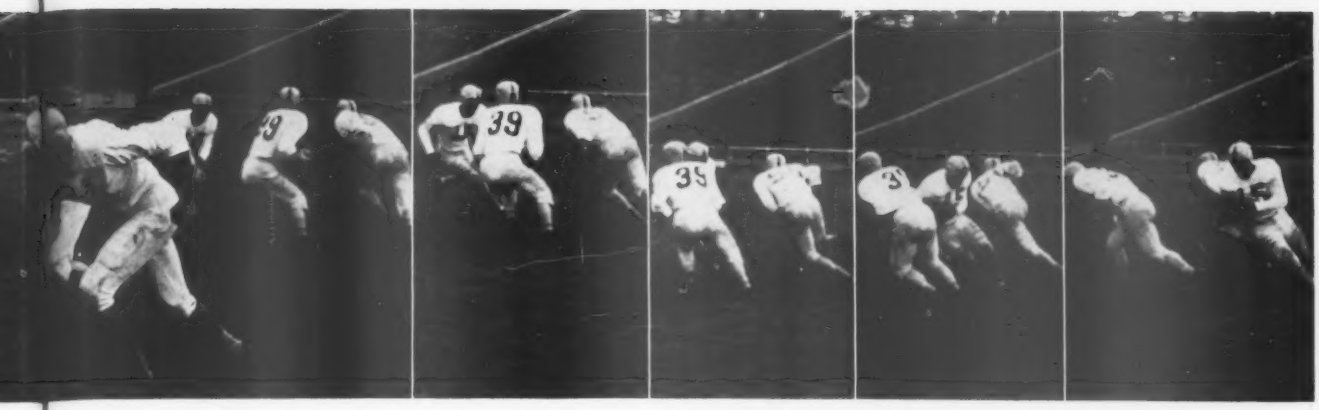

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The first method does not require any ball-handling other than receiving the pass from center, with the exception of a front hand-off by the tailback to the right halfback on a reverse play. In this technique it is the responsibility of the back who gives the ball to place it in the pocket formed above the belt by the receiving back.

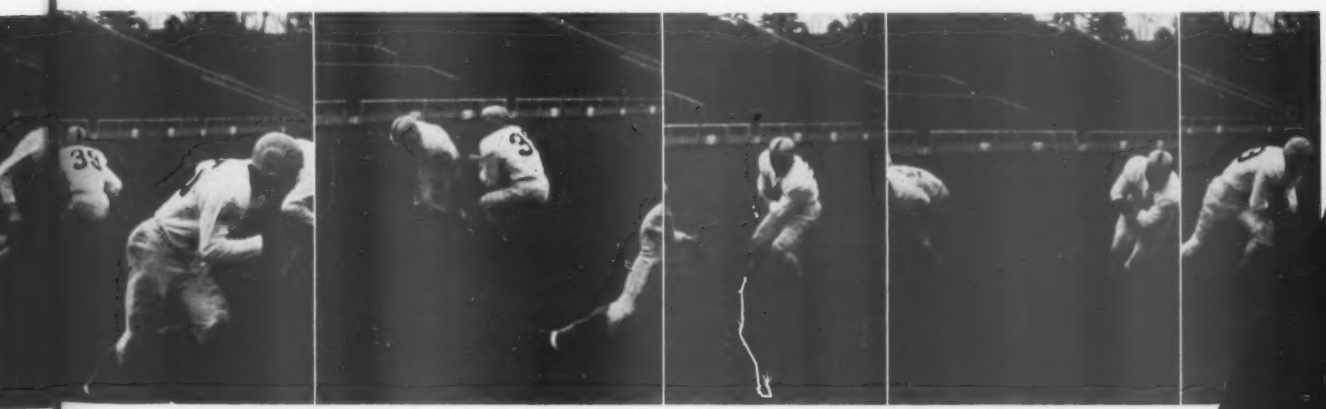
CHALMERS ELLIOTT played for Purdue as a marine trainee and following the war enrolled at Michigan where he averaged 5.5 yards per rush in six conference games on the 1947 team which went to the Rose Bowl. "Bump" started coaching as an assistant at Michigan in 1948 and the next three seasons served as backfield coach at Oregon State, joining the Iowa staff early in 1952.

The spinning technique again places the responsibility of the hand-off on the man who is giving the ball away. He must keep his eyes on the target and place the ball with the long axis along the belt line of the back who is receiving the ball, making sure he places it firmly but does not slam it. The man who receives the ball does not reach for it, but merely places his hands below his belt line with his palms upward. His hands should not be more than three or four inches away from his body so the ball does not slip down behind them (Series F).

If the spin back is to keep the ball, he will fake to the left halfback with the ball hidden from the defensive tackle and end. An important coaching point is to make sure the fullback's back is to these defensive men when the exchange or fake is executed (Series G).

Another type of exchange is the one used in the buck lateral series. In this exchange we have the quarterback pivot in his tracks, and cup his hands directly below his waist on his right thigh. The palms of his hands are facing each other with room for the ball to slide in and the heels of his hands are used as a backstop about three inches apart. His hands are held steady, and the quarterback must

(Continued on page 60)



In Football It's

FEET FIRST

By VINTON RAMBO

Football Coach, Shippensburg State Teachers College

EACH year while attending football conventions and clinics we see a number of coaches searching for ideas which will help them produce a fine offense or an impregnable defense. Many coaches feel their time has been well spent if they gain a few ideas upon which they can expand. It has been our feeling that too often coaches spend their time copying plays and complicated defensive systems while they miss some basic ideas which could be incorporated into any system.

We have based a great deal of our philosophy of football upon an age-old premise that quite often we give our opponents credit for being able to do too many things, with the result we spend too much time preparing for things which never happen. After all, most of our opponents do not have much more practice time than we, nor do they have a more capable staff of assistants, if the team is playing in its own class.

With this thought in mind, we spend considerable time on details. We feel there is an advantage in having boys who are thoroughly familiar with fewer systems, offensive and defensive. In our opinion, it is human nature for a player to hesitate and slow up in his reaction timing when he is not quite sure of an offensive or defensive assignment. Many boys slow up when in a ball game, and thus give an opponent the timing advantage, or they may make a costly mistake.

Of course, variations of our offense and defense are used for individual opponents each week, but we feel that too many teams introduce too many changes before the players become familiar with what they have been given.

Instead of writing on some phase of offensive or defensive football, we will attempt to develop a basic idea which we have found helps in keeping our boys in ball games.

During World War II it was our good fortune to work in the Navy V-5 program where we came in close contact with Dr. Carl Young, now of UCLA. A number of young coaches profited by his fine analytical approach in examining boys for physical weaknesses and the means he used to correct these weaknesses.

The plumb bob which is shown in Illustration 1 is extended from the middle of the buttocks to show general leg alignment. We are especially concerned about the pronated ankles of this individual which show just above the heel on the inner edge of the ankle. These ridges or extended shelves of tissue occur from a tendency to walk on the inner part of the heel. Walking in this manner results in loss of general leg balance and an unstableness which throws strain on the longitudinal arch of the foot and the internal lateral ligament of the knee. By use of built-up arch supports in the shoes, the general balance of the leg can be restored and the compensatory strain eliminated throughout the whole leg.

Illustration 2 shows a lateral view of the same foot, where the longitudinal arch has dropped, resulting in cramps through the arch region and general loss of power. Boys who have pronated ankles may develop severe pains through the longitudinal arch area early in the season. These pains are brought on by fast starting in football drills.

With the advantage gained from our association with Dr. Young we returned to coaching in the postwar period when immediate equipment was not sufficient either in quality or in quantity.

During the fall of 1947 we had a plague of leg injuries, from sprained ankles and charley horses to broken bones. We suspected faulty arch and heel construction in shoes, a condition later verified and corrected by the company concerned. In going further we also found that the eight boys we were most concerned about all had definite weaknesses in feet alignment.

Failure to analyze and correct this condition early in the season proved quite costly as all eight boys were consistent performers and they were lost to the team for several weeks or for the balance of the season.

Since 1947 we have examined each boy quite carefully at the start of the season, several times during the playing season, and again during the spring of the year.

It is our feeling that faulty heel alignment is the cause of many leg injuries in football. Coaches who have growing families of their own probably are aware of the importance put on the use of corrective shoes by pediatricians in recent years. Many boys who are now playing football did not have the benefit of such medical service 18 or 20 years ago.

We look for what is termed a pronated ankle, where the ankle turns in somewhat and the boy has a tendency to walk on the inside of his heel more than he would normally. This condition will probably result in two other apparent physical weaknesses, flat feet with weak longitudinal arches, and a knock-kneed condition. Both conditions result from the weakness of the basic foundation.

If the foundation of any structure is weak and sags, an abnormal strain may be expected throughout. A pronated ankle will cause the longitudinal arch to sag and may immobilize a boy. A good job of taping can give some temporary relief but it is not the solution.

General tightness of the entire limb may be expected as muscles attempt to compensate for the extra strain of trying to retain body balance. Such muscular structure is more susceptible to bruises, charley horses, and pulled muscles. The strain which is placed on the knee in the enforced knock-kneed condition is serious. The internal lateral ligament is under considerable tension and is much more apt to be torn under a sudden twist or pressure than when it is under proper balance.

VINT RAMBO graduated from Iowa Wesleyan and coached at Orient, Iowa and Teaneck, New Jersey for five years before going to Shippensburg in 1936. He spent four years in the Navy V-5 program. During the past four years his football teams have won 27, lost 4, and tied 1. Rambo has a 17-game winning streak in operation. Last fall Shippensburg led all the small colleges of the country with a defensive average of 83.1 yards per game.

During the past four years we have been quite fortunate in injuries to our squad. Injuries which have kept boys out of ball games have been largely confined to head and shoulder areas. Either we have been fortunate in not incurring leg injuries of any consequence, or our vigilance in analyzing defective conditions has paid off.

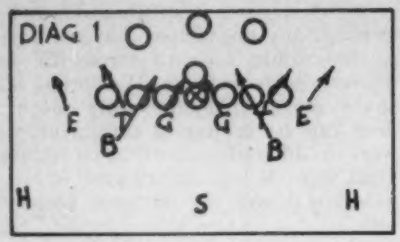
During these years we have lost four ball games. We feel our present 17-game wining streak is due in a large measure to the fact that we have had all of our boys available each week end.

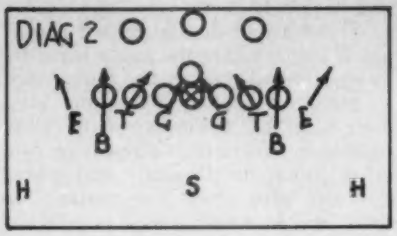
We do not put shoes which are run over on any boy. Shoes that are out of line could start to throw off a player's body balance. We doubt if many shoes which are badly out of line can be renovated satisfactorily. We would rather burn such shoes than feel we had contributed to developing a bad leg for some youngster.

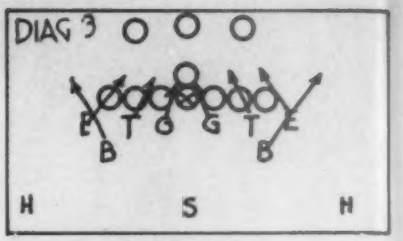
Members of our squad who show evidence of ankle pronation are screened. Then we consult with our college physician on these cases and he makes a further diagnosis. All boys in this group who have a history of ankle or knee injuries, plus others diagnosed as needing corrective aid, are sent to an orthopedic surgeon who writes prescriptions for arch supports. These supports are built by shoe repair men who have been trained according to prescription diagnosis. The supports are made of leather with built-in sponge rubber lifts in the areas prescribed. The cost has been $5 a pair for the supports. Generally, we buy two pairs, one for use in street shoes and the other in athletic shoes. As a rule, we can expect a boy to wear a pair of supports for two years.

Our records show almost no trace of knee and ankle injuries over the past four years, and none serious enough to keep a boy out of a ball game. We will continue to look for the little things which will aid boys in avoiding injury.

Illustration 3 shows a view similar to that shown in Illustration 1. Both ankles show pronation. This man has a knock-kneed condition which, no doubt, was aggravated by the foot weakness.







Planning the Defense

AGAINST a single wing team the line should be taught to penetrate because in the single wing there is a great deal of double-teaming against the defensive linemen. Therefore, the defensive linemen should be taught to meet the two offensive linemen very low and attempt to get under them with their shoulders. The tackling is left more or less to the linebackers.

In playing against a team that is using the T formation the line must do a considerable amount of the tackling. The men must be quick on their feet because it is an individual-against-individual type of play. There are not many men expended in front of the ball-carrier. The man who is handed the ball is expected to veer off the opponents through small openings. Defensive linemen must see to it that they do not permit these openings.

The next important factor for the coach to analyze is the scouting reports to find out what are the best plays of the opponent. Where does the opponent like to run, and to what spots does he usually pass? The coach will also figure from the scouting notes his personnel in comparison to that of his opponents. Will the big strong individuals of the opposing team face his small men?

A coach may have the urge to put into operation a surprise defense, but it is more sensible for him to fall back on the defenses which have proven to be effective.

Usually, a well-balanced offense can solve any defense, so a coach must have several alternate defenses. No doubt, it will be found profitable to employ some subterfuge. The line arrangement should be the same all the way through the game, providing the boys line up in what appears to be a six-man line. By stunting with loops, angles, and shooting backs the line may be deployed with numerous defenses.

After considering all the factors, the coach should have in mind the definite objectives of his defensive play. We will not play an opponent with anything short of a *triple tertiary*. Since we have used that term let us explain it. In defensive play we plan to have four waves of protection. The line of scrimmage is our first wave, and the backers the second. In addition to the linebackers, this tertiary comprises the third and fourth waves because the player who is designated the safety man of those three players forms our fourth wave. In other words, we want three men back from our line at least 10 yards deep. We will not play a 7-2-2, a 5-4-2, or an 8-1-2.

Our first objective is to prevent a score. We feel that if there is adequate protection downfield we can stop a score from a long run, or prevent a score from a deep pass.

When the offense spots a team in a box defense, as a rule, they like to throw passes deep down the middle. The trend toward the umbrella defense shows the reluctance of coaches to give that deep middle to long passers.

Our second objective is to give ground grudgingly. If concessions must be made, then we give them where our opponent will do the least harm. Every attack has its pet lanes. We are not satisfied that we have our proper defensive pattern until we see where our opponent prefers to run. With that information at hand we stack our strength at those points.

Let us assume that a team which uses the T formation has a fine fullback and left halfback. Their right halfback is mediocre. It will be obvious that these players are limited in their maneuvers. This limitation will be doubly apparent if they are flanking either the left halfback or the fullback. Therefore, we undershift on the right halfback and overshift toward the strong left halfback. Our interior linemen will be angled to stop the fullback.

Any time an opposing elusive halfback is placed up on a wing the coach has been relieved of many worries. His fears concerning this back will be downfield for a pass, or a reverse play with the back in question carrying the ball. At this stage we always overshift away from this wingback or angle in the opposite direction. Our second objective, therefore, is to hold every gain to a minimum.

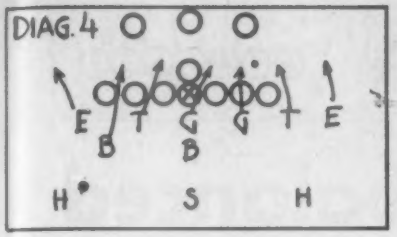
It is very demoralizing for the defensive team to have the opponent rack up successive first downs.

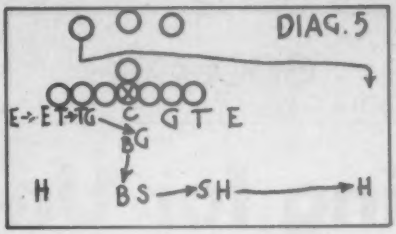
Our next objective is to get the ball back in our possession as soon as possible. Our defensive team is very aggressive. Gang tackling is the rule and the fact that the opponent is going to have the ball for four plays only is stressed. Our quarterback, when he has possession of the ball deep in the opponent's territory, (opponent's 30) fourth down, will kick out of bounds inside the opponent's five yard line. He knows we play to take that ball away within four plays so he regains possession of it at practically the same spot within a span of two minutes.

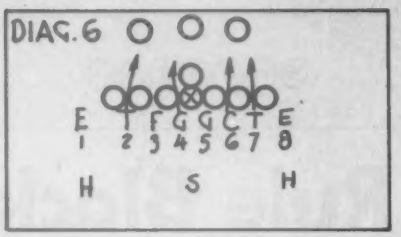
Most teams make mistakes, possibly more often on offense than on defense. Consequently, our next objective will be to force some of those mistakes. We concentrate on placing two men on the center, especially if he is passing long. Shooting an extra lineman through on the quarterback who is pivoting in the T, and shooting a backer-up to hit the quarterback very early on the *keep or give*, are two methods we employ to force a break in the game.

Finally, it is well to instill in the

By DENNIS GILDEA
Football Coach,
Everett, Massachusetts, High School







defense the desire to score. We use this desire as an objective. During the past season our defensive unit scored five times on punt runbacks and three times on pass interceptions. When an opponent is forced to punt we feel we can score if the ball is kicked so it can be caught. We use a double safety and peel off our line. Five players have set blocking assignments which are designed to spring the ball-carrier all the way.

On all passes thrown against us we have a defensive call, used by the player who intercepts, which immediately alerts the remaining ten men to be up and blocking. Through working with these objectives the boys are given the technique of each position. Defensive guards must be dogged and bull-necked. Lou Little once said: "Better if they are cross-eyed." We prefer a four-point stance with the guards' feet set on a sprinter's stance. The defensive guard's rear foot should be aligned with the heel of his front foot. His back should be level, and his body should be placed a foot back of the ball because we like a roll with the body so that on straight drives our man is through with the pulling guard. Plenty of two-on-one work develops good guards. All four guards must submarine perfectly, and that means coming up through on the other side of the line, not ostriching. They must go over the top using a handstand, tie up a double-team, split the opposing players, reverse pivot roll, and on many occasions knock heads. The guards are the heart of the defense.

Before the advent of the rule that linemen must keep hands off an opponent's head or face, many clever tackles were developed who had plenty of clever footwork. Today, most tackles lead with their heads and shoulders and are easily trapped and wedged. The best a coach can hope from his tackles is that they control the man in front of them and impress the opponent with the idea that they are in control.

After controlling his opponent, the tackle plays his territory. If the defense is an angling five, the tackle must go to the ball and not run around the block. He must fight pressure at all times. A tackle cannot take himself out of a pursuit angle. When facing a double block he must be cautioned to get his shoulders lower than those of the blocking team, hit hard, and work toward the ball after the contact.

Our ends are told they cannot do two things at once. If they are playing a crashing game, they cannot be expected to cover the outside. Assuming the job of the ends is to crash, they should take a three-point stance and face in toward the ball. They should be instructed to get into the tackle line in three steps. Some coaches teach their ends to keep the outside foot back, but we prefer to have the inside foot back. As he takes his steps, his hands are out in front in order to protect his legs against blockers. Thus, the end is set for the impact. If the end sees a pass is developing, he breaks from the set and drives for the passer. If he sees an outside sweep, he should pivot off at once and become a pursuer. Ends should not be expected to fight trouble.

When they are playing the outside our ends are told never to run the circle inside out. A good end plays as close to his tackle as he can and still keep his outside covered. With flankers outside, the end must move outside the flanker until he gets working space along the line. Then he shoots for that space and protects the outside. He must be watching carefully for a peel block. An end must rely on good footwork when there are flankers to block him. If the flanker insists on facing him, the end stays on the line of scrimmage, waits to see what develops, and then plays the outside.

It was mentioned earlier that we use gang tackling. We have two containing men on every attack. If a team is sweeping our left end, then our left end and left halfback are the containing men. The attacker must be kept within the perimeter of our eleven men. If the ball-carrier gets outside our left end, and a quick block is thrown on our left halfback we probably will be scored upon. However, if our end can keep the play inside with the assistance of the left halfback, then our linemen who know how to control and then pursue the ball-carrier, will give assistance to the backers who are pursuers.

By having the linemen pursue, the coach will find that they all become good tacklers. After considering the factors of deployment in conjunction with the objectives, the coach should study the opponent's attack carefully and decide on the number of patterns he will need to stop it. These patterns call for plenty of drilling during the week. A dummy scrimmage should be held with one team furnishing all the maneuvers of the opponent. The coach should check every call to make sure the players understand them.

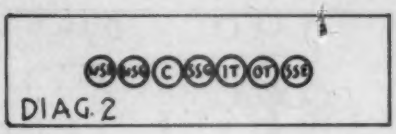
Most coaches are familiar with modern stunting. In a 5-3-3 defensive formation the center, guard, and his backer-up have signals whereby the front man can change his charge to the left or right of the offensive center, with the backing guard shooting up the opposite side. When the outside backers are playing close they can both shoot, while the ends fan wide.

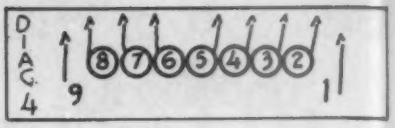
Working from a six-man line the ends, tackles, and backers-up can combine to give an offensive team playing the T formation a very difficult time. On a call from the backer-up the two linemen maneuver. There can be three different movements on both sides of the line, with each side working independently.

Diagram 1 shows a six-man line maneuver. On the call *in* the backers-up drive in and the guards pinch. The tackles and ends angle out.

(Continued on page 30)

DENNIS GILDEA has coached at Everett since 1926 where his all-time coaching record shows 184 games won, 70 lost, and 30 tied. He is past president of both the Massachusetts Coaches Association and the Massachusetts Football Coaches Association. He also served for four years as a high school representative on the American Football Coaches Association Rules Committee.





Rule Blocking for Unbalanced Line—Single Wing and T

By RICHARD F. MARQUARDT
Wilbur Wright High School, Dayton, Ohio
and
PAUL E. WAGNER
Fairmont High School, Dayton, Ohio

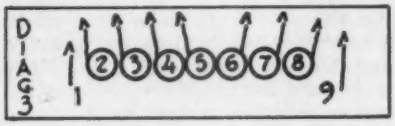
OUR rule blocking originated from a study, during the past eight years, of the single wing systems used by many of the nation's outstanding coaches. Our rule blocking follows principles learned from Fritz Crisler, Wes Fesler, Bob Higgins, Charlie Caldwell, Biggie Munn, Carl Snavely, Carroll Widdoes, Harry Baujan, and Rix Yard. We took many of their thoughts and adapted them to our own system and terminology. Our rules were designed in order to run both the single wing and T formation from an unbalanced line, without the necessity of having the boys learn two sets of blocking rules.

Why Rule Blocking Is Used

In using rule blocking with an unbalanced line, we try to prepare the boys to meet all the defenses that the opponent might use. A trend in high school and college football today is the use of the various defenses that are employed to stop the orthodox T, split T, and single wing multiple offenses. Therefore, we feel it is essential to prepare our boys to meet every situation. Several years ago, if boys knew how to block against a six-man defense and a seven-man defense, they were considered prepared to meet the average opponent.

We would like to show by diagram and example how it is possible to block against the major defenses and their variations by using the same set of blocking rules. We also found that with our single wing and T offenses a new problem arose due to the fact that our quarterback is utilized in the ball-handling. Therefore, the rules were designed so that they might be used with either the single wing or the T formation.

In designing these rules the value of maintaining blocking angles was



kept in mind. Thus we feel the impossible is not asked of our boys. By using the unbalanced line we can accomplish single wing characteristics such as two-on-one blocking and still have a quick, elusive type of attack with the buck lateral and the modified T formation. By using rule blocking the boys will learn all of their assignments and adjust quickly to the rules of the man next to them. If the boys are capable, they may learn two positions.

In rule blocking every boy knows what to do on every play in every situation. We include all linemen plus the wingback and the quarterback in our rule blocking. As the quarterback calls a play such as 42 or 32, the last number is designated as the hole number and all linemen block according to the 2 hole blocking rule. The wingback and quarterback also block according to the last number, unless they are involved in the backfield action. The first number given merely assists the backfield in its maneuvers.

With an unbalanced line certain advantages are obtained by unbalancing right and left. Our rules cover this situation without any change of assignment. By using rule blocking the boys will soon pride themselves on the fact that the rules cover all situations which the defense may set up; the boys will develop a large amount of confidence in their offense.

Offensive Line Spacing

When the team is in right formation the positions will be designated from the weak side to the strong side as follows: Weak-side end (WSE), weak-side guard (WSG), center (C), strong-side guard (SSG), inside tackle (IT), outside tackle (OT), and strong-side end (SSE). The abbreviations for each position are used for that position throughout our blocking rules. WB is used for wingback and (QB) is used for quarterback. For clarity in this article the positions and maneuvers will not be abbreviated. When unbalancing to the left each boy maintains his original position but he will be on the opposite side of the center. Left formation is shown in Diagram 1, and Diagram 2 shows the right formation.

The weak-side end usually splits about 1 yard; the strong-side end splits from 18 inches to 2 yards. Usually, the other men split from 8 inches to 18 inches from their inside teammate. Our line splits are sometimes slightly wider in the T formation.

RICHARD MARQUARDT graduated from Denison University in 1944 and served the next year as assistant under Woody Hayes. He then coached at Northridge High School in Dayton for three years, winning the league championship one year. Since 1950 he has been at Wilbur Wright High School in Dayton.

PAUL WAGNER is a graduate of DePauw and he started his coaching as backfield coach under Marquardt. The following year he was head coach at Eaton, Ohio, High School, and since 1952 has been backfield coach at Fairmont High School in Dayton.

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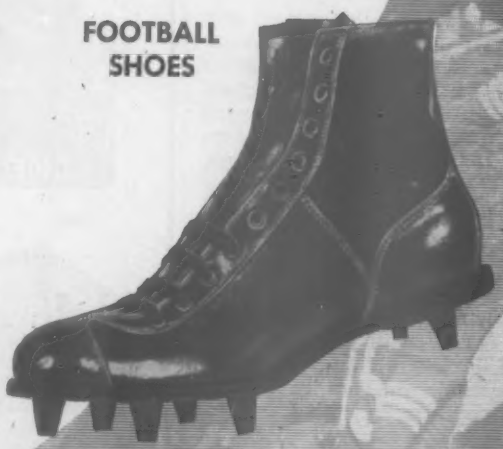

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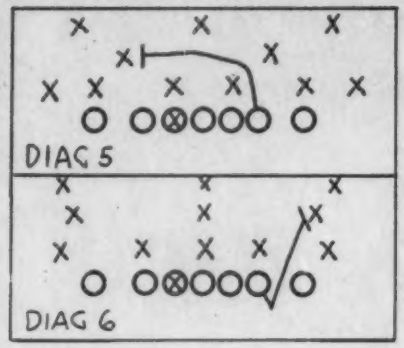

Location of Holes

There are nine holes across the line of scrimmage in our numbering system. The holes are numbered offensively from the strong side to the weak side, in both the right and left formations. Our hole numbering system is shown in Diagram 3 for left formation, and in Diagram 4 for right formation. The arrows indicate the exact location of the holes.

There are other ways of hitting both the 1 and the 9 holes and we have named these 1x and 9x rules. These are used on quick end runs from the T formation and also on buck lateral pitch-outs around end.

There are additional ways of hitting the 3 and 5 holes and we have named these 3 power and 5 power, which gives us two-on-one blocking for power bucks and T quick hitters.

Our 6 and 7 holes are actually the same hole and the rules are the same for both holes. This designation aids the wingback coming around on reverses because many times he comes around blind. It gives our wingback a sense of direction; we have him cut close to the center on 6 hole plays and cut a little wider on 7 hole plays.

Terminology

Squad members must understand the terminology before the blocking rules are learned. We never mention left or right in the rules because we shift both ways with the unbalanced line and this might confuse the boys. By using the words outside and inside, the boys can remember their assignments easily whether we are in right or left formation. The following terms must be understood by all squad members and coaches: Outside —away from center. Inside—towards center. For our center, outside is towards the strong side, and inside is towards the weak side.

We always say *in* or *out* to give direction. The words Post (P), Drive (D), Block (B), Check (CH), Trap (TP), Pull (PU), Dip Step (DS) and Lead (LD) are maneuvers used by our linemen when they are blocking on the line of scrimmage. The abbreviations after each type of maneuver are used for the particular maneuver throughout our blocking rules.

Peel, blast, and crack are words used to designate blocking on the secondary.

When we refer to Dip Step (DS), the lineman takes a step slightly back and to either the inside or outside before going through for a linebacker or halfback. This is done in the hope of drawing the opponent through for a trap. When we refer to a man on a player's nose, that man has to be directly in front of the player's nose.

When we refer to a man over a player, that man can be over the player or in the gap to his strong side. This holds true for all linemen.

We have our quarterback use a maneuver which we call Jab Step. Sometimes he will jab step to the strong side before coming back to the weak side on certain plays. We do this to throw off keying linebackers. Our jab step is just a false cue maneuver.

In our terminology, when we speak

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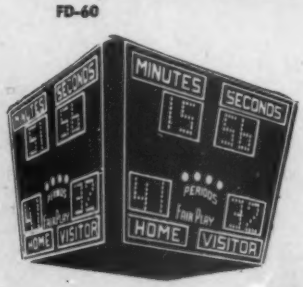
FF-1S

FD-60



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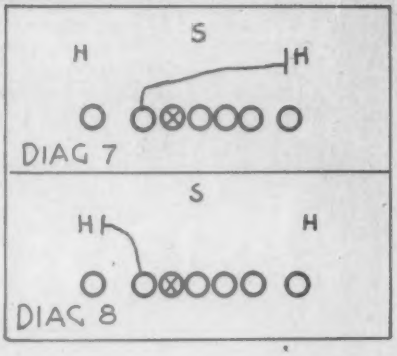
of *blast*, we mean blocking on linebackers. Either *in* or *out* following the word *blast* tells the lineman which linebacker to block. Diagram 5 shows our offensive tackle when his rule is to blast in. Diagram 6 shows our offensive tackle when his rule is to blast out.

When the word *blast* is used and there is no linebacker, the lineman should *crack* in the same direction he was to *blast*.

When the word *crack* is used it refers to blocking on the halfbacks. When the word *safety* is used after the word *crack*, the safety man becomes the man to block instead of the halfback. Diagram 7 shows our weak-side guard when his rule is to *crack* in, and Diagram 8 shows the same player when his assignment is to *crack* out.

Diagram 9 shows the weak-side guard when his rule is to *crack* the safety in, and Diagram 10 shows the maneuver of the weak-side guard when his rule is to *crack* the safety out.

When a man is assigned to *crack* the safety in or out and there is no safety, he should *crack* the halfback on the side of the direction given.

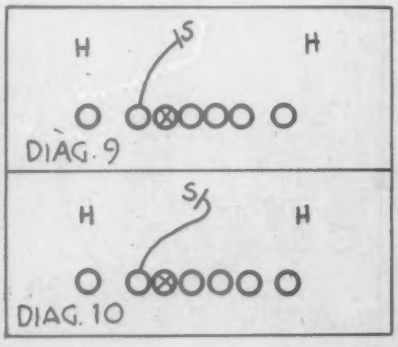


Now that we have explained our terminology, the rule blocking will be given for every hole we have. The rules to be used against a five-man and a six-man line will be diagramed but for the 2 hole we will show the rules to be used against all major defenses. The other holes which could be blocked against all defenses in the same manner as the 2 hole will be shown. Successful rule blocking is just a matter of applying the rules. In rule blocking the terminology must be mastered; the balance is easy.

1 Hole Blocking Rules

Strong-side end—if there is a man on his nose, he blocks in; if not, he blasts the linebacker over or inside in. *Outside tackle*—blocks the man over him or the first man inside of him in. *Inside tackle*—pulls, leads around the 1 hole, and blocks in. *Strong-side guard*—blocks the man over him or the first man inside of him in. *Center*—checks the first man inside of him. *Weak-side guard*—peels to the strong side. *Weak-side end*—cracks the safety out. *Wingback*—if there is a man on his nose or inside the gap, he blocks in; if not, he blasts the nearest linebacker in. *Quarterback*— fakes block on the first man past the 2 hole, releases inside, and blocks the first man in his path. Diagrams 11 and 12 show our rules against a six and a five-man line.

(Continued on page 62)



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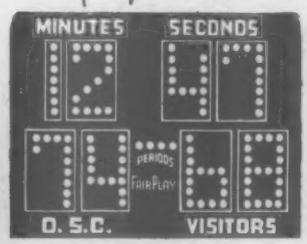

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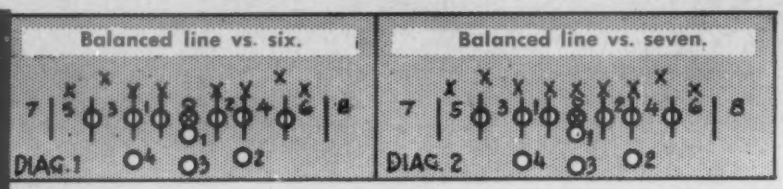
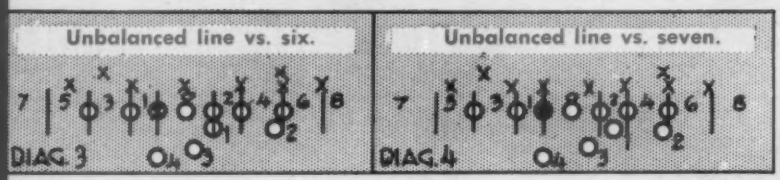


A Varied Offense for High Schools



By BYFORD BARR and WAYNE STAFFORD
Godwin Heights High School, Grand Rapids, Michigan

INSOFAR as is feasible, our coaching staff believes in the use of a varied offense. The case for these basic precepts is based on the following: 1. All of our players are more fully utilized. 2. More burden is placed on our opponents' defense. 3. Our opponents are kept off balance and thus the team makes its own breaks. 4. The emphasis that football is a thinking game comes naturally. 5. The squad scrimmages against a variety of offenses so it is easier for either the offense or defense to adjust to a new or novel situation.

By varied offense for high school football we refer to the systems commonly taught and used throughout the country. These are the T, split T, single wing, double wing, and a spread formation. Naturally, the blocking assignments must be the same or practically the same for all formations. The accompanying diagrams will indicate how the blocking assignments are accomplished.

The holes are numbered through the offensive team, thereby keeping the play the same regardless of the number of defensive linemen used, as shown in Diagrams 1 and 2. This type of hole numbering will enable a team that uses a varied offense to hit any hole from several formations with a minimum of change in assignments.

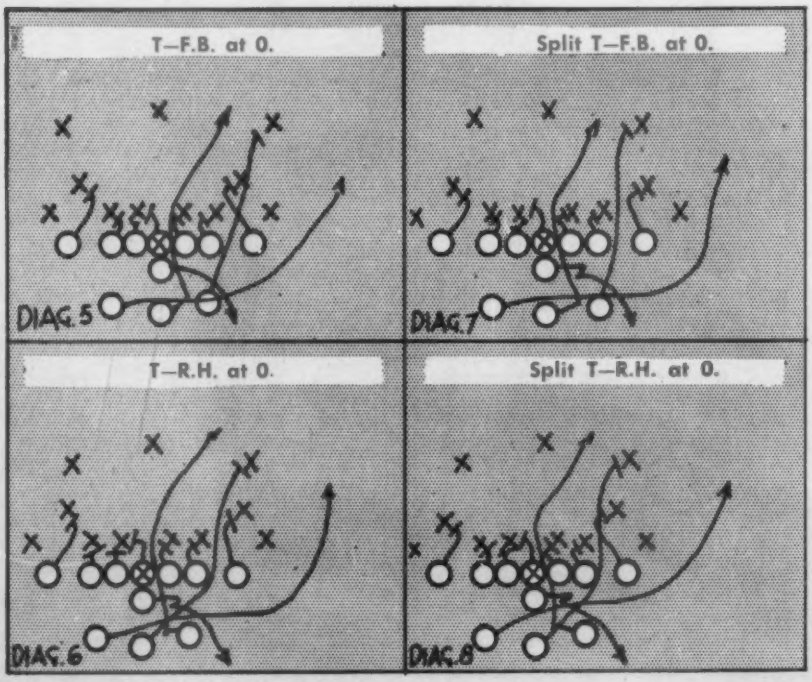
When an unbalanced line is used the hole numbering still begins with the center on the offensive team being designated as O, as indicated in Diagrams 3 and 4. Of course, O will not be the man who centers the ball.

The backs and ends are also numbered to make the name of the play simple and easily understood. The quarterback is No. 1, the right halfback is No. 2, the fullback is No. 3, the left halfback is No. 4, the left end is No. 5, and the right end is No. 6.

All T formation plays are called by naming the formation, then the back who is carrying the ball, the hole he is going through, and finally the snap number. An example is T, fullback at O, on ready shift.

In all other formations the play is designated in a slightly different manner. For instance, single wing, 30, on second series 2, indicates the formation is single wing; the fullback will carry the ball through the O hole; the ball will be centered on 2 of the second series of numbers. A shift is made from the T formation to the single wing on the first series of numbers.

Diagrams 5 through 14 show the many possibilities of hitting the O hole with little or no change in blocking assignments. The standard 6-2-2-1 defense, which is probably one of the best all-round high school defenses, will be used.



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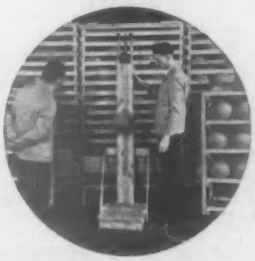

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LINE BLOCKING CHART

POSITION	FB at 0	RH at 0	FB at 0	RH at 0	30	40	30	40	30	40
LE	LB	LB	LB	LB	LB	LB	LB	LB	LB	LB
LT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT
LG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
C	RG	RG	RG	RG	RG	LG	RG	RG	RE	RG
RG	LG	LG	LG	LG	LG	LG	LG	LG	RG	RG
RT	LT	LT	LT	LT	LT	LT	LT	LT	LG	LG
RE	LB	LB	LB	LB	LB	LB	RB	HB	LB	LB
FORMATION	T		Split T		Double Wing		Spread		Single Wing	

The accompanying chart shows the line blocking assignments of the plays shown in Diagrams 5 through 14. Examination of these diagrams will show that five formations are used in hitting the O hole with 10 distinctly different plays; yet the line blocking assignments change very little. Three linemen have no change in assignment, three men only one, and the center two changes in assignment. Notice that four of five changes are in the single wing formation. This is due to the use of an unbalanced line.

Players More Fully Utilized

Through the years our teams have had strong boys who were hard runners and slow starters, but long passers. They were used on the single wing. At the same time we had fast-starting small break-away runners who were used off the T and split T. These boys were also used for passes from the spread formation and on reverses from the double wing formation. In addition, they could break out from the single wing to receive a long pass from the fullback.

We found that smaller, faster boys could be used on the line. Use of these boys has been the secret of continuous competition for starting berths. The small fast-reacting boy can show up the larger boy. This in turn annoys the larger boy and spurs him on to greater effort. While we realize that these are only two examples, similar examples of the utilization of personnel could be given.

Many coaches have had the same experience we have on the T, and that is in the case of an injury to the quarterback. In the varied system this situation would merely mean calling single wing, double wing, and spread plays by a substitute or good blocking back. Incidentally, we had this experience last season. A boy who had never been out for football before took over the reins capably after an injury to the regular quarterback and worked with these plays until his ball-handling became polished enough for the T formations.

BYFORD BARR graduated from Southeast Missouri State College and began his coaching career at Godwin, Michigan. After three years as assistant he was named head coach in 1950. His head coaching record shows 24 games won, 3 tied, and only 7 lost.

Wayne Stafford graduated from Northern Illinois College in 1943 and then served as a paratrooper in the European theater for three years. Following discharge from the service he served as head coach at Ravenna, Michigan until he assumed his present position in 1950.

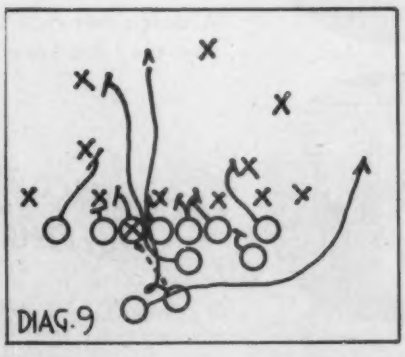
More Burden on Defense

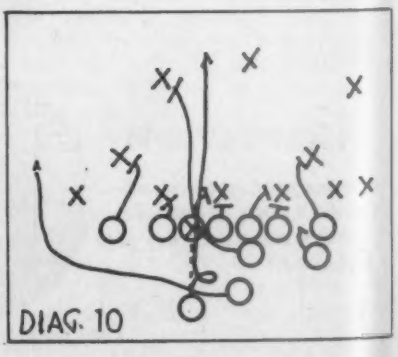
The opponents know our team uses more than one offense so they try to use more than one defense to circumvent our offense. Obviously, if the opponents do not have the same philosophy and background as our group, they must spend a great deal of their time on defense. Then, especially during the first half of the season, they will have trouble producing sustained touchdown drives. In addition, by not being able to polish their offense because of the time factor, the opponents are more likely to make mistakes. These mistakes are due primarily to poor timing and ball-handling, because the players are worrying about defense patterns. Further, our boys have the feeling that they will find one offense or combination of offenses which will either be unfamiliar to the opponents or will successfully exploit their defense so they will not be able to defend successfully against our offense. In short, the opponents play our game; we do not play their game.

Opponents Kept Off Balance

The team which presents an apparently different problem on every play finds that the opponents become somewhat frenzied. Some members of the opposing team become frustrated. Now the same hole may be hit, as described previously, from four different formations. When the opponents are on the way to being demoralized, even players on a good team may start to argue. The player with a varied offense background finds these individuals are the ones who take themselves out of the play, or render themselves susceptible to becoming easily rattled. Forgetfulness

(Continued on page 84)


DIAG. 9


DIAG. 10

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NEW BOOKS

Administration of High School Athletics, *by Charles E. Forsythe. Published by Prentice-Hall, Inc., New York 11, N. Y. Four hundred and sixty-two pages.* $6.65.

Every once in awhile a classic appears in the field of literature and when it does the book becomes what is known as a best seller. One of the real classics in our field is this book by the well-known and popular Charlie Forsythe. The book was originally published in 1939 with a second edition in 1948. This third edition has brought the book up to date and reference is made to some of the most recent material available. A new feature in this latest edition is a list of questions at the conclusion of each chapter to serve as a review for those just entering the administrative field.

Basketball Coaches Digest. *Published by Huntington Laboratories, Huntington, Ind. Sixty-four pages, free to coaches,* 50 *cents handling charge for other than coaches.*

For the fourteenth year Huntington Laboratories, in the interest of the great game of basketball, compiled the best basketball literature. Sixty-four pages of good sound basketball may be secured by merely checking the listing on the last page of this issue.

Physical Education and Healthful Living, *by Lester Fraley, Warren Johnson, and Benjamin Massey. Published by Prentice-Hall, Inc., New York 11, N. Y. Two hundred and five pages.* $3.65.

A most novel and unique presentation of the subject matter is to be found in this book. The three authors, who are members of the physical education staff at Maryland, collected articles, pamphlets, and speeches by outstanding and recognized leaders in the field and reproduced them in the book. Altogether 36 authorities or organizations prepared the material which is divided into three parts: Physical Education from the Viewpoint of History, The Physician, The Psychiatrist, The Lawyer, The College President, and The Physical Educator; Exercise and Good Living; and Factors in Physical Conditioning and Fitness.

Tests and Measurements in Health and Physical Education, *by Charles McCloy and Norma Young. Published by Appleton-Century-Crofts, Inc., New York 1, N. Y. Four hundred and ninety-seven pages.* $6.75.

This book is the third edition of a book first published in 1939. Fifteen chapters of this third edition are new or are complete revisions of chapters from the second edition. For a highly technical treatise on a complicated subject, presented in a clear and concise style, we recommend this book.

The Official Encyclopedia of Little League Baseball, *edited by Hy Turpin. Published by A. S. Barnes & Co., New York 16, N. Y. Two hundred and thirty-eight pages.* $2.75.

This book is an official Little League publication and contains the history of Little League, training techniques, and the official playing rules. In addition, a considerable portion of the book is devoted to playing hints, many of which were prepared by major league players. A section of the book is devoted to a discussion of ways and means of organizing a Little League. Successful plans employed in some cities are cited as illustrations.

Best Sports Stories of 1954, *edited by Irving Marsh and Edward Ehre. Published by E. P. Dutton, New York 10, N. Y. Three hundred and twenty-eight pages.* $3.50.

The tenth volume of this annual compilation of outstanding newspaper and magazine sports stories includes a list of all previous authors and photographers. This year's book, like the previous ones, makes for interesting reading and each year the number of school libraries using this series becomes more extensive.

Educators Guide to Free Slidefilms, *compiled by Mary Horkheimer and John Diffor. Published by Educators Progress Service, Randolph, Wisc. Two hundred and eight large size pages.* $5.00.

This directory lists 708 slidefilms which are distributed free. The source of these films is given along with a short review of each film. Of the total, 114 deal with health or health education.

The Administration of Physical Education for Schools and Colleges, *by William Hughes and Esther French. Published by A. S. Barnes & Co., New York 16, N. Y. Three hundred and eighty-three pages.* $4.50.

By and large, the great majority of books on administration deal with only one or at the most a limited number of phases of the total program. This book presents desirable practices and standards in all phases for men and women. The administration of required classes, intramural sports, varsity athletics, and health and recreation are the phases covered at both the school and college levels.

Physical Education Handbook, *by Don Seaton, Irene Clayton, Howard Leibee, and Lloyd Messersmith. Published by Prentice-Hall, Inc., New York 11, N. Y. Two hundred and eighty-three large size pages.* $4.65.

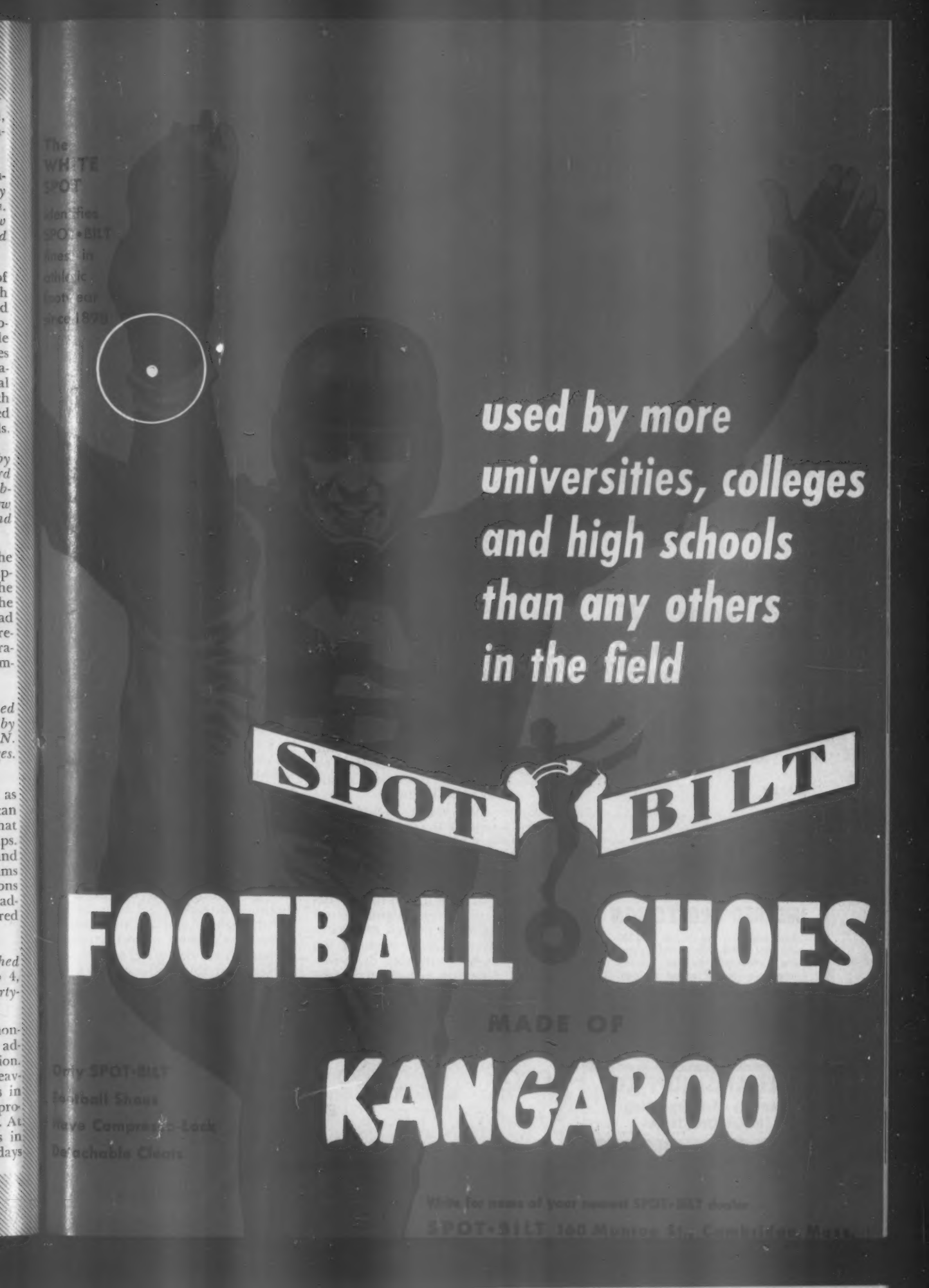
This is the second edition of the popular Handbook which first appeared in 1951. Before revising the Handbook the authors surveyed the opinions of 315 instructors who had used it and from the information received new sports and new illustrations were added. Also new is a sample test for each sport.

Program of the Modern Camp, *edited by Gerald P. Burns. Published by Prentice-Hall, Inc., New York 11, N. Y. Three hundred and twenty pages.* $5.65.

Dr. Burns served for five years as executive director of the American Camping Association and during that time visited more than 300 camps. This book includes illustrations and examples of balanced camp programs for thirteen camps in various sections of the country. Eight recognized leaders in the field of camping prepared a portion of the material.

The Recreation Program. *Published by the Athletic Institute, Chicago 4, Illinois. Three hundred and forty-two pages.* $3.00.

The Athletic Institute is a non-profit organization devoted to the advancement of sports and recreation. Among its many worthwhile endeavors is the financing of workshops in numerous fields. This book was produced by the sixth such workshop. At the workshop outstanding leaders in the field of recreation spent ten days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preparing this book. Prior to the workshop, material was gathered over the period of a year. Everyone present had an opportunity to read, criticize, and suggest improvements in the material collected. Thus, it can be said that this book presents the composite thinking of the recognized leaders in the ever-growing field of recreation.

The Defense

(Continued from page 19)

On the call *middle* the backers-up drive through the middle (Diagram 2).

In the defensive maneuver shown in Diagram 3, on the call *out,* the backers-up go to the outside.

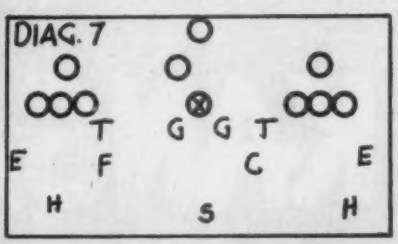
Diagram 4 shows another effective six-man defense. The maneuver is an overshift to the weak side of the field and the stunting is also to the weak side with the backer-up, end, and tackle doing the stunting. In Diagram 4 the weak side of the field is to the right of the defense. This is actually seven-man spacing to the right and five-man spacing to the left.

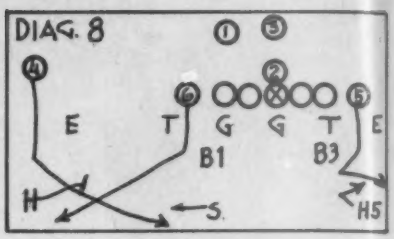
Another very useful defense stems from a seven diamond when the offensive team uses flankers or backs in motion (Diagram 5).

We have used a combination four-eight line by call. The captain of the defensive team calls any four members. Those four men shoot; the other four slack off and follow the ball. If there is no call, then all eight shoot. The men play the seams. The numbering is left to right. Therefore, on a call 2-4-6-7 the formation would be as is shown in Diagram 6.

Against any kind of a spread we call 4-4-3 (Diagram 7).

All of the alignments we have mentioned have been for use in heading off the running attack. Regarding pass defense in high school, we have found that a daily drill with the defenders on switching assignments on the strong side has proven most satisfactory. Boys can learn to make the switch. The back covering the weak-side end plays him man-for-man. Diagram 8 shows the procedure.



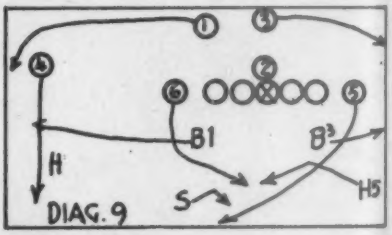


In the maneuver shown in Diagram 9 the switch is between the right halfback and the safety.

The backs alert each other by calling *end over.* If there is no return call of *end over,* the back man remains with his man.

Diagram 10 shows a situation in which the right halfback calls *end over* and the safety man does not call back because he is busy covering.

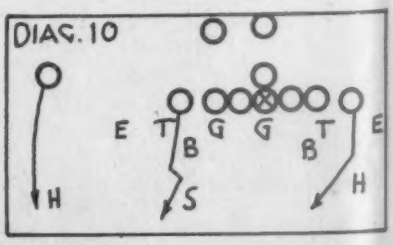
Defensive backs should be given plenty of practice in running backward. Races should be staged with boys running forward and the boys who are running backward should be given a 10-yard handicap. We race them down the field until those



running forward catch those running backward.

Coaches should also direct a backward race, shouting directions to turn, so the running will be partly side running. By calling *left-right-all-done,* without the players breaking to the side, provides a condition similar indeed to game coverage. This phase of defense cannot be drilled too much.

This drill may be made to simulate game conditions by the coach shouting directions to turn to the left or right. Adequate pass defense is one of the most important phases of our entire defensive scheme and we feel that this drill cannot be employed too much.



Physiological Conditions Associated With Drowning

By JACK E. HEWITT
Department of Physical Education, University of California, Riverside
and
ROBERT L. HAZELWOOD
Division of Physiology, University of California, Berkeley

Illustration 1 shows the position of the operator's hands, knee, and foot for the back-pressure arm-lift method.

RESUSCITATION is a technique and a responsiibility placed on the shoulders of the layman much more often than on the medical man. Seldom is a physician the initial one to find, diagnose, and aid an asphyxiated person — rather he is more commonly called into the situation by the layman who has already commenced first aid of some sort.

Resuscitation may be defined as the method of reviving a person, or a method of preventing, by use of artificial respiration, asphyxial deaths. By this definition, then, we see that submersion is merely one of the more important of many types of asphyxial conditions, that is, physiological conditions in which the body tissues are deprived of oxygen. Asphyxia is found in diversified occupations and situations. It may be caused by electric shock, mine shaft gas, carbon monoxide, and a host of other sources. Submersion of the mouth and nostrils in water, whether the liquid source be an ocean, lake, river, pool, or a few inches of water in a bathtub can precipitate asphyxia.

Classification of Drownings

Submersion incidents are commonly classified as accidental, homicidal, suicidal, and those due to natural causes (heart attack while swimming, etc.). Some of the most bizarre sources of drownings are found in the accidentally caused group and it is not uncommon for traumatic experiences (injury, shock, etc.) to precede the submersion. Thus, in the case of diving into waters of unknown depth, a broken neck or crushed cervical area of the spinal cord is the specific causative factor leading to the drowning. As stated previously, even two or three inches of water are sufficient to cause drowning.

The operator places his hands on the flat of the subject's back, below the armpits. Notice the operator's thumbs barely touch and his fingers are spread outward and downward (Illustration 2). The operator rocks forward slowly, keeping his elbows straight, until his arms are nearly vertical, exerting a steady downward pressure (Illustration 3). Illustration 4 shows the operator rocking backward, sliding his hands to the subject's arms just above the elbows. The operator should raise and pull the subject's arms toward him until he feels tension in his shoulders, then release.

Normal vs. Abnormal Respirations

Drowning may be considered physiologically as the accumulation of a liquid, most commonly water, in the respiratory tract to such an extent that suffocation occurs. A physiologist would call this condition anoxia, that is, a blockage of the air passages resulting in an inadequate supply of oxygen; consequently, oxygen starvation and eventually death of the body tissues and cells is the result.

Involuntary everyday breathing is of a very complex nature and is under control of nervous reflexes (Hering-Breur) as well as by chemical modification of the blood. The fact that a respiration center exists which controls muscles of inspiration and expiration has been accepted for many years and its location has been assigned to the medulla in the brain.[1] Presence of special stretch receptors in the lungs which, through the vagus nerve, act on the inspiratory center as a check and balance mechanism constitutes the main nervous control over normal respirations. Expiration seems to be of a passive nature.[2]

Circulation plays a prominent part in respiration as a whole and must, therefore, be seriously considered in selecting and applying resuscitatory techniques. Changes in chemical composition of the blood, such as an accumulation of CO_2 (carbon dioxide) or a lack of O_2 (oxygen) act as a stimulus on the respiratory center. A carbon dioxide increase seems to act directly on the center in the medulla, while an oxygen lack appears to be mediated through chemoreceptors located in the carotid sinus and aortic arch areas. However, it should be pointed out that the normal CO_2 tension of the blood is 40-70 mm.Hg. and beyond this point (above 9 per cent) carbon dioxide acts as a direct respiratory depressant. Since the brain is nourished by an ever-present environment of blood, it can be seen that radical changes in the blood chemistry may alter respiratory efficiency.

Experimental Asphyxia

As mentioned previously, drowning places a person in a state of asphyxia — a state which cannot be considered static or stagnant, but rather a state which is fluid, always changing. On the physiological aid rendered, depends whether the reaction set off is life — death, or death — life. Dr. Pol Coryllos[4], described four basic stages of asphyxia which may be paraphrased as follows:

1. In the first stage there is a sudden occurrence of apnea (lack of breathing) due to a reflex closing of the glottis, and a sudden increase in the blood pressure.

2. In the second stage the blood pressure continues to rise and respirations become more dificult (dyspnea), so difficult that the patient fights feverishly to free himself from the cause of his asphyxia. In submersion cases this is exemplified by the struggling of the victim, no matter how feeble his efforts may be, to regain the surface and free his mouth and nostrils from the surrounding water. Here CO_2 bombardment of the respiratory center is markedly increased.

3. The third stage is the most crucial. It is represented by a sudden drop in the arterial blood pressure with an accompanying cessation of breathing. A very significant disappearance of muscular tonus and reflexes, such as the glottis reflex and the stretch receptors located in the lungs, occurs at this point. Experimentation has shown that effective resuscitation begun at the start of this phase is usually successful. Waiting to apply it near the end of this phase, however, almost always ends disastrously for the patient. Respirations are lacking, blood pressure is down to a dangerous low, and as the phase progresses the muscle tone (muscle life) departs from the tissues. This is followed immediately by a relaxation of all controlling sphincters and a condition of flaccidity sets in.

4. In the fourth stage, the last stage, the final circulatory depression, which actually started in the latter part of the second phase, progresses to such an extent that the heart stops completely. Revival is generally impossible beyond the early part of the third stage and it must be kept in mind that the respirations often stop prior to circulatory arrest.[4]

The patient progresses from one phase to the next; there is no clear line of demarcation between one and another.

Cardiovascular and respiratory efficiency may be considered the criteria of successful resuscitation. The closeness of the circulatory system to the respiratory system in function is possibly best demonstrated when the pulmonary circulation is examined. Here, the blood leaves the right ventricle of the heart and enters the lung tissues via the pulmonary artery. The blood is circulated throughout every square inch of the lung tissues by a huge network of capillaries. When inspiration occurs, the air taken in enters the pharynx, descends through the larynx and trachea and then through two large cyclindrical subdivisions, the bronchi. From this point it descends to many bronchioles and from the latter into many sacs termed alveolar sacs, allowing the inspired air to reach the deep interior of the lungs. Investigators have found that these alveolar spaces are highly vascularized, that is, many blood vessels surround each sac and for a good reason. Here the exchange of gases occurs between the blood stream and the outside air as it is drawn into the interior of the body. The alveolar spaces have been estimated to contain a surface area of over 1000 square feet and thus act as a media by which oxygen and carbon dioxide content of the blood can be regulated.

It should be quite clear from the foregoing discussion that any serious impairment of the circulation, or in the case of a drowned victim, impairment of any portion of the respiratory tract subjects the individual to a serious suspended state which requires immediate rectification. Failure to do so reduces the victim to an anoxemic state which precipitates a medullary paralysis involving the heretofore functional respiratory center.

Mechanical Method of Resuscitation

If life is to be sustained or restored to the asphyxiated person, it is essential that artificial respiration be ad-

(Continued on page 49)

DR. JACK HEWITT graduated from California in 1928 and served as swimming coach at Oregon from 1930 to 1933 when he moved to Oregon State to serve in the same capacity. In 1941 he returned to his alma mater and this past spring was made director of physical education at Riverside, a branch of the University of California which became a four year liberal arts college this spring.

Robert Hazelwood is a graduate assistant at California and is doing research work in the physiology laboratory course. He served as teaching assistant in swimming for a number of years.

[1]Wiggers, C. D., *Physiology in Health and Disease;* Lea and Febiger, 1949.

[2]Fulton, John F., *A Text of Physiology;* W. B. Saunders, 1949.

[3]Flagg, P. J., *The Art of Resuscitation;* Reinhold Publishing Co., New York, 1944.

[4]Coryllos, Pol., *Surgery, Gynecology and Obstetrics;* 66:698, 1935.

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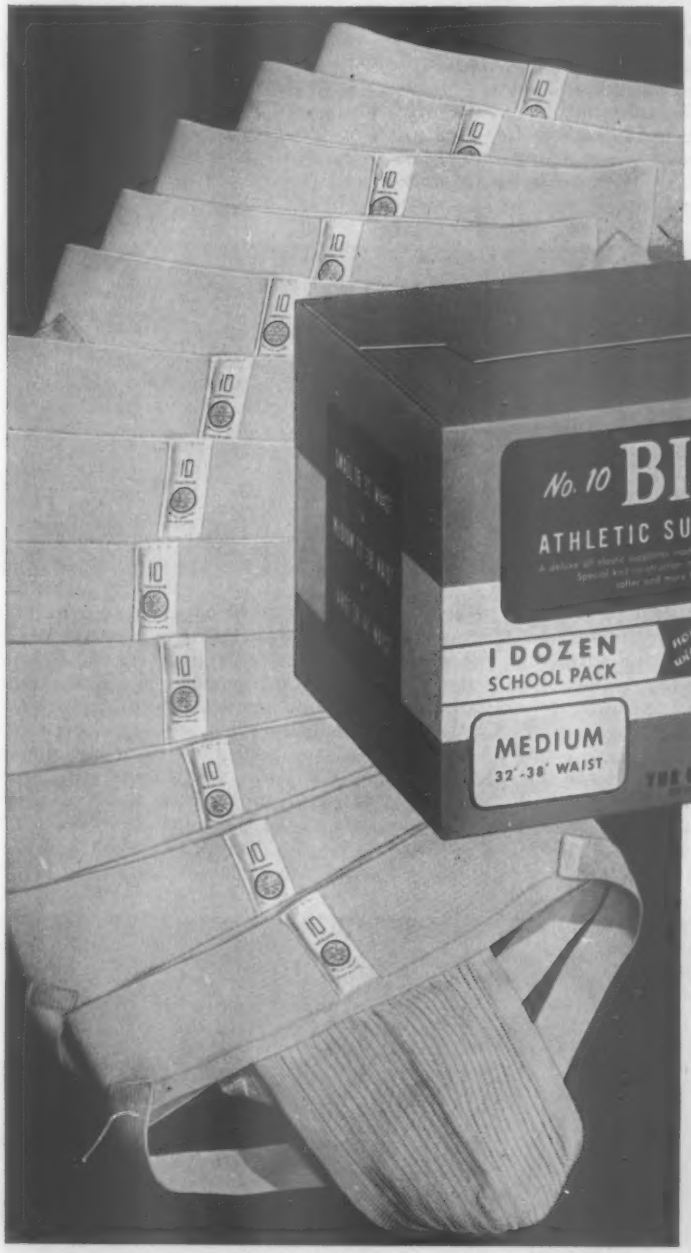

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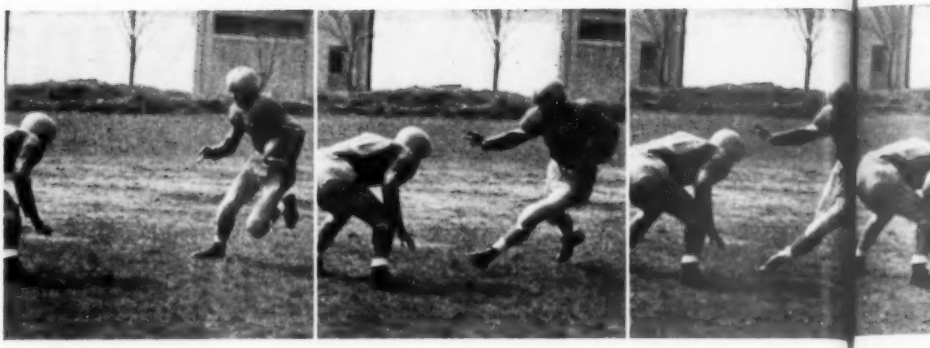
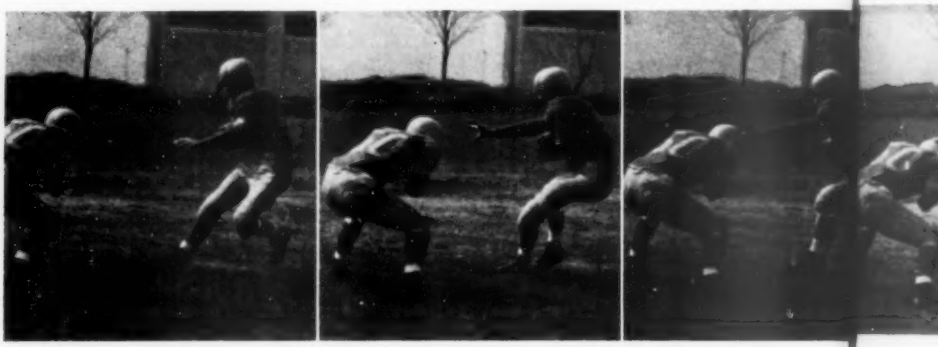


BACKFIELD STUNTS

PIVOT

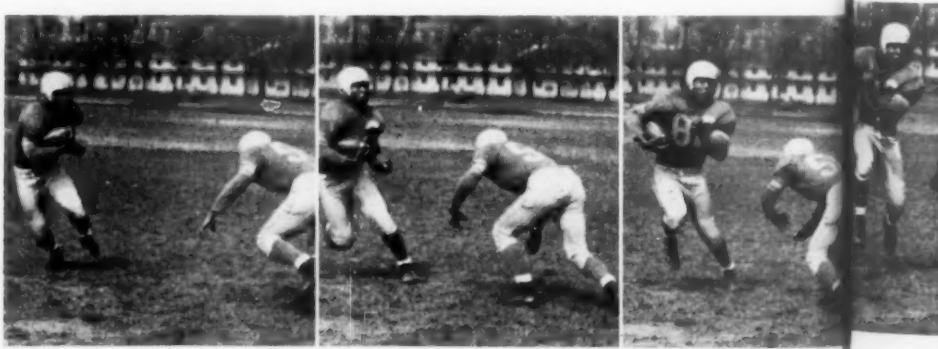


By FORREST W. ENGLAND

Head Football Coach

University of Toledo

SIDE STEP

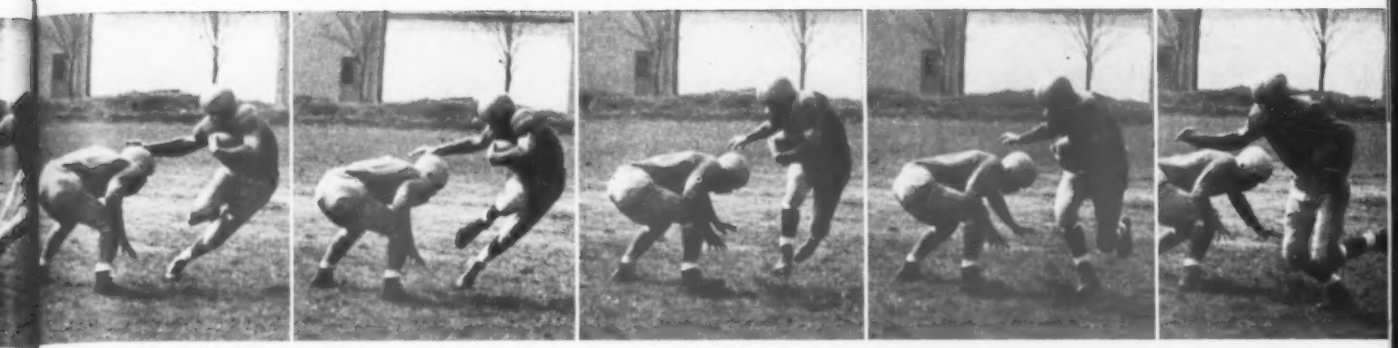


A SKILLED back appears to have eyes in the back of his head. This type of back has correct perception about space and sound judgment regarding the best avenues of escape to elude determined tacklers. He must be able to evaluate distances at a glance and determine the best course to run. It is imperative for him to make adequate use of his blockers and he must have speed to advance the ball successfully.

A great deal of the skill which is employed by the better ball-carriers seems to be part of their physical heredity. The player who has fine motor skill is ready to employ the tactics which are necessary for a successful ball-carrier. A few of the essentials of fine motor skill are speed, agility, balance, elasticity, strength, and co-ordination.

The most frequently used escape tactics for ball-carriers are the cross-over step, the stiffarm and pivot, and the side step. A coach can teach these football skills to his backs, and he should insist that the ball-carriers use them constantly. For a back to gain ten yards is not enough, if only one tackler brought him down without fierce resistance on the part of the ball-carrier. The play and the work of his teammates may well have been responsible for every yard gained by the ball-carrier. A highly skilled back should be expected to gain many more yards through the use of his individual escape tactics.

The best weapons a ball-carrier can develop are the cross-over step as demonstrated in the top series, the stiffarm and pivot as shown in the middle series, and the side step as pictured in the bottom series. In addition to these stunts, he should also seek to develop the change-of-pace, change-of-direction, and, above all,



use of tremendous drive. Drive is a fourteen carat asset to any ball-carrier.

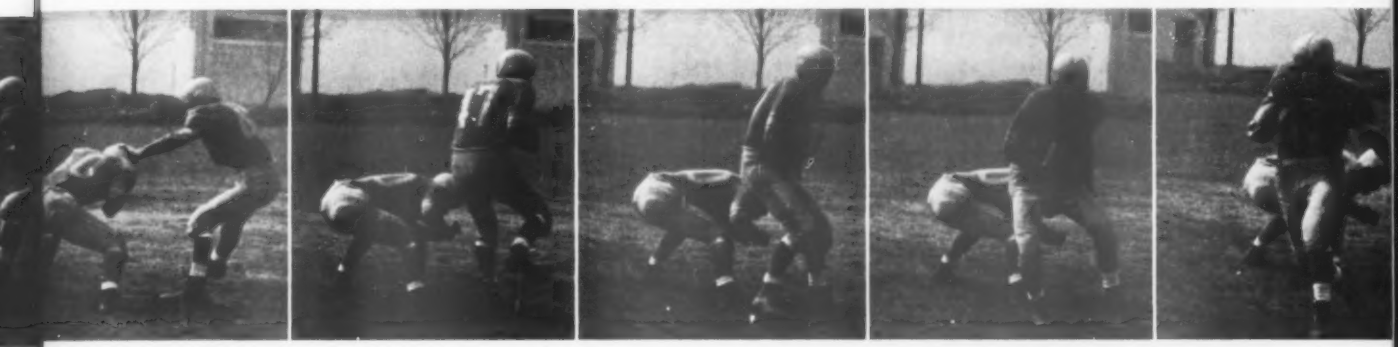
The cross-over step finds the ball-carrier leading toward his opponent with his left leg. Then he crosses his right leg vigorously over to his left while using the stiffarm as a springboard to ride away from the tackler. Loose swivel hips are a tremendous asset in the execution of the cross-over step.

high knee action and short, choppy steps.

The bottom series shows the execution of the side step. This skill is nothing more than the ball-carrier giving or showing the tackler his inside leg and inviting him to tackle it. As the tackler makes his lunge the ball-carrier should push hard to the outside from the spring generated by his inside leg. As he moves laterally he lets his inside leg go limp. It is

the arm farthest from the tackler. 2. Use the stiffarm. 3. When every possible inch has been ground out and as the ball-carrier is going down he should be sure that he has both arms around that football.

Use of the stiffarm should be a great aid to proper execution of all of these escape tactics. The stiffarm should be thrust out in a vicious manner on the last step just as footwork execution begins in any of the



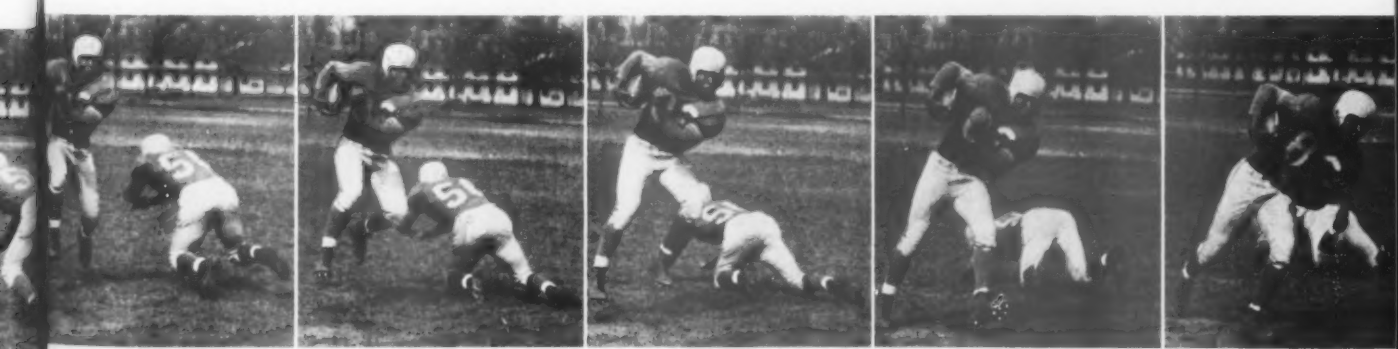
The pivot, spin, or twist is shown in the center series. A ball-carrier will have a wonderful skill if he will remember to pivot or twist at any moment he feels a hand being placed upon him. For best execution when he is confronted by a head-on tackler, the ball-carrier should push off backward with his near foot, and turn on the outside foot while he is using the stiffarm. As his body comes around he should drive forward low with

best to use the stiffarm in the execution of the side step.

A simple arrangement for practice of these skills is to divide the backs into two lines. The coach should have the ball-carrier approach the tackler. The ball-carrier may use any of the escape tactics his coach is attempting to teach him in order to elude the tackler. In all phases of ball-carrying there are three important points to stress: 1. Keep the ball in

illustrated stunts. The ball-carrier's elbow should be locked and slightly rotated toward his body when contact comes. The palm of his hand should be on the tackler's forehead and the weight should be taken off his feet. Some of the most common faults in execution of the stiffarm are: 1. The ball-carrier's arm is down and back instead of up and forward. 2. His arm is bent at the time of contact instead

(Continued on page 82)



Food for Thought

By DR. JOSEPH DOLLER

Head Trainer, Loyola University, Chicago, Illinois

IN caring for athletes over the years and under varying conditions, we have been exposed to a number of ideas on just what is considered to be the perfect diet for an athlete. There is no question that diet plays an important part in the career of an athlete. With these thoughts in mind, we are constantly on the lookout for some approach to diet which will give us an athlete who will perform better. In the early days of organized athletics, very little thought was given to diet, but as time continued on, more and more ideas were presented. These ideas snowballed until there was a time when the extreme opposite took place. Fads came into vogue and the boys were subjected to ridiculous whims of diet which the coach or trainer believed in at the time. Today, a happy medium is desired.

We will not attempt to go into the mechanism of food digestion because we have been exposed to these theories in our general physiology courses. Basically, let us remember that the purpose of food intake is: to increase energy, produce heat, provide body building materials, and act as body function regulators.

All of us can recall our playing days when we were told not to eat this or that. We dared not eat a piece of pie, candy, or a rich dessert. Fried foods were also taboo, lest the athlete get out of shape or have his wind affected. Actually, eating these foods would have done nothing more than add a little weight. At the time, avoiding fried foods and sweets was probably good thinking, but as our game skills progressed so did our diet habits.

The situation would be ideal if diet were the determining factor in a winning or losing season. We all agree that proper nutrition is vital but it certainly is not the determining factor in a winning season. An athlete must have ability before it can be maintained. A good athlete is like a good machine; he needs good fuel constantly, in proper amounts in order to maintain top level performance. The answer is to have a steadily maintained diet, beginning with early season training, and continuing on until the very last day of the season. Between season instruction must also be given, so that the athlete maintains himself properly the year around.

When speaking of the steadily maintained daily diet, we should consider various factors. Actually, there are basic foods that are essential and it is these foods which should be our foundation. There is no diet technique pertaining to the growing and competing athlete which merits any applause unless it contains the basics which are meat, fish, milk, eggs, vegetables, fruits and breads. These foods serve as the cement base to which the superstructures such as gelatines, puddings, soups, juices, etc., are added. The right combinations of these foods provide the energy which the athlete stores up and calls upon later to give him the performance we desire.

Leaving the field of the steadily maintained diet, we come to the controversial pre-game meal. The amount of benefit which is derived from this meal is questionable. The pre-game meal definitely does not provide the little extra which many coaches believe it does. It is ridiculous to think that food taken from four to five hours before a contest will provide the extra power needed for a winning performance. At best the pre-game meal does provide a meeting place for all of the team members prior to a contest. It can also serve as a special part of the day-of-the-game routine. All athletes expend a tremendous amount of nervous energy the day of a contest and usually have a difficult time keeping their minds occupied. This pre–game meal serves as an excellent vehicle in breaking the day's monotony.

On the day of a contest, regardless whether it be football, basketball, swimming, or track, the meal should be taken four to five hours before game time. The food should be of the type that is easily digestible. If the event is in the afternoon, a meal consisting of steak, cooked vegetables, toast, and tea serves best if it is eaten about four hours prior to game time. If the contest is in the evening, a normal breakfast should be eaten, and lunch should be eliminated or at best, be very light. If lunch is eliminated, the suggested meal should be taken at about 4 P.M. It will be noticed that easily digested foods are indicated. This should demonstrate that it is not the pre-game food which gives the athlete that extra zip, but it is the food that he has previously stored up which acts as the energy reservoir.

The key to a strong, well-performing athlete over the course of a season is an intelligent diet which is maintained from the beginning to the end of the season.

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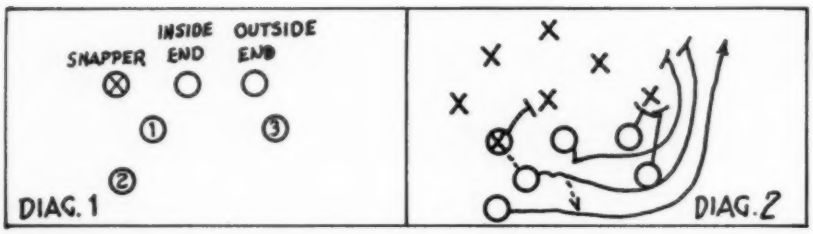
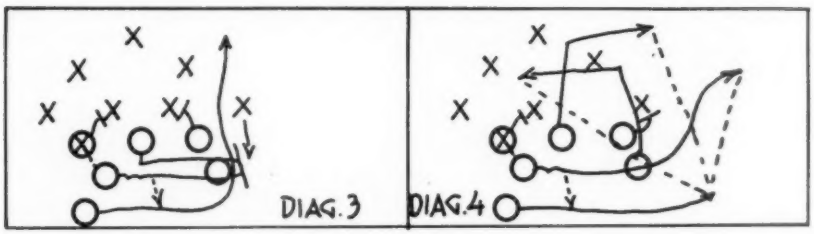


By ANDREW W. GRIEVE
Van Etten, New York, Central School

Unbalanced Line for Six-Man



ALTHOUGH the unbalanced line has been used for a great many years in eleven-man football, the formation is seldom seen in the six-man game. Many coaches contend that since there are but three men on the line, all the offensive power will be concentrated to one side, thereby reducing the blocking power to the weak side. After using an unbalanced line for the past few years we found we are able to obtain sufficient blocking to the weak side and extremely powerful blocking to the strong side.

We were able to gain the needed blocking on short-side runs by pulling our middle lineman, or inside end as we call him. When our boys run to the strong side from this formation we have been able to put four blockers in front of the ball-carrier by pulling our inside end. Considering the fact that there are only six men on the team, and one player must carry the ball, we believe this is excellent blocking.

The single wing formation with an unbalanced line is only one of three formations which we use. However, approximately one-half of our offensive plays are run from this right wing formation.

Our basic right wing formation is shown in Diagram 1. The inside end lines up one yard from the snapper, who is on the left end of the line. Our outside end is one yard from the inside end, thus giving us splits in the line. The main purpose in splitting is to spread the defense. If the defense does not spread sufficiently, our blocking angles will be definitely improved. The quarterback, or 1 back, sets up two yards behind the line and in the split between the snapper and the inside end. The tailback, or 2 back, lines up directly behind the snapper, approximately four yards back. The wingback, or 3 back, sets up two yards from the line and just off the outside foot of the outside end.

Obviously, we are very strong to the right. Despite this fact the opponents have rarely shifted to any great degree to our strong side. This is probably due to their fear of our weak-side attack since two backs are located close to the weak side. In addition, there is always the danger of a reverse. To compensate, many teams have attempted a four-man defensive line, but we have found our attack, by making automatic changes in blocking assignments, is just as strong against a four-man line. These changes will be described as we present the specific plays.

Diagram 2 shows our right end run. The ball is snapped to the 1 back on his right thigh. He pivots to his right, starts in that direction, and laterals to the 2 back who has started on the snap of the ball. The inside end pulls out and both he and the 1 back lead the play around end. The outside end and the 3 back double-team the defensive end in. If the end is playing very wide, then these two players may have to drive him out. The tailback will then have to cut inside. When such a situation occurs the two blockers call *cut back*.

If the defensive left halfback has been rushing and breaking up the play, the inside end may shoot straight downfield and take him quite easily. This situation arose in one game and, by making this slight adjustment, the end run resulted in two long touchdown runs.

If the defense sets up a four-man line, as is shown in Diagram 3, our linemen call this out immediately as they get to their set positions. Then the end is handled as a halfback. The outside end should be able to handle his man easily due to the excellent blocking angle, and the wingback will go downfield for a halfback. Either the inside end, the 1 back or, in some cases, both players will drive the defensive end out and the 2 back will cut back.

Diagram 4 shows the right wing optional pass. This play gets underway exactly the same as the right end run. The 2 back, as he gets outside the end, has two options. He may pass to any of the three receivers downfield or he may run. The inside end does not pull on this play but attempts to slip behind the defensive halfback. If this halfback has been rushing to stop the end run, then the pass, if completed, usually results in a long gain. This play will help keep the defensive halfback honest.

We have also found that the short pass to the 1 back works quite effectively since the inside end should pull the halfback deep. If the short pass is completed, the end is in excellent position to block the defensive halfback.

Against a four-man line it may be necessary for the 1 back to block the

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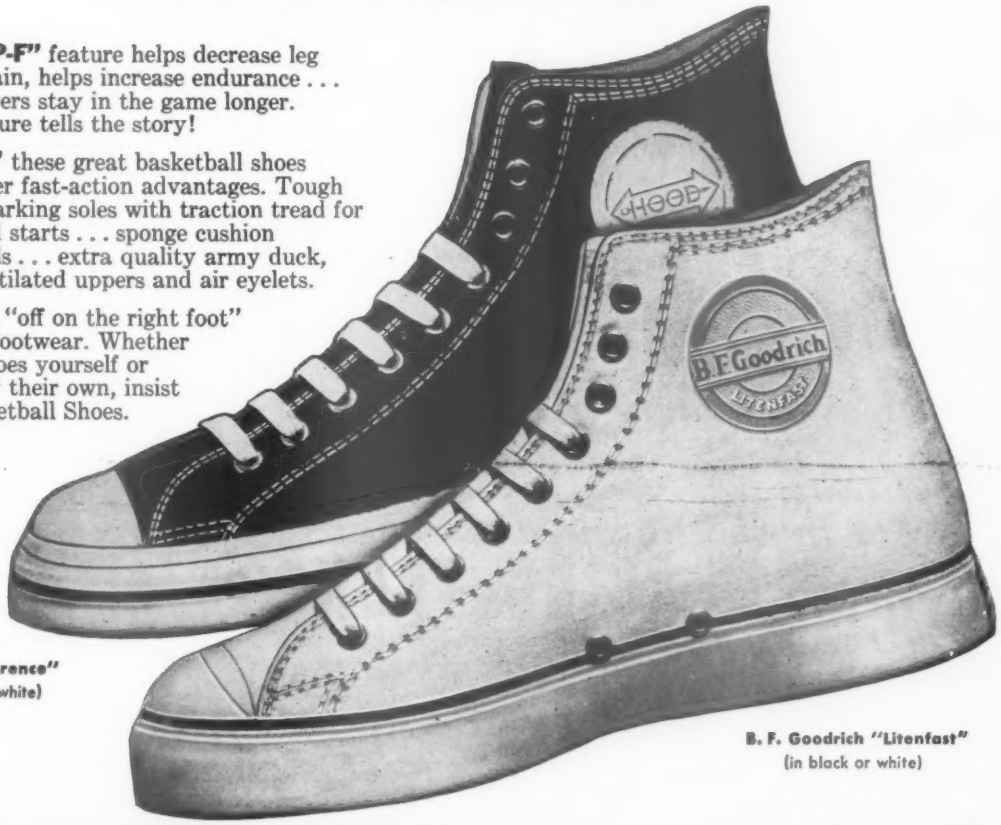

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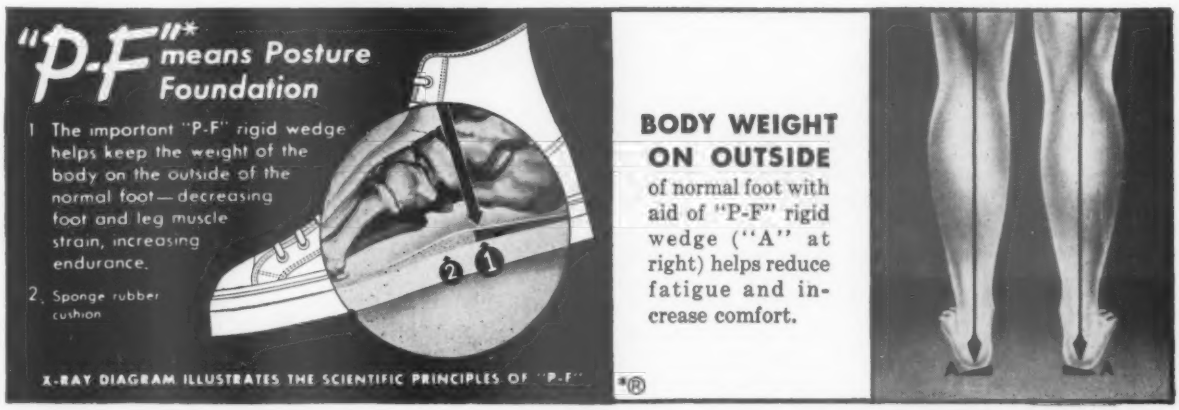
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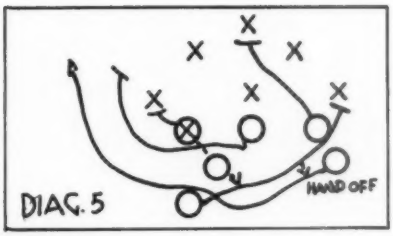


DIAG. 5

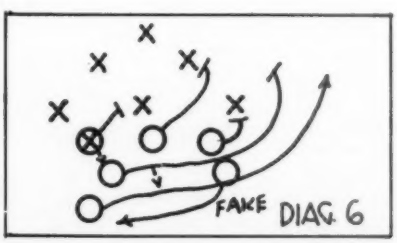
defensive end if he is bothering the play. However, against the four-man line we have found the short pass works extremely well, especially if the defensive end is undecided as to what to do.

If the end fades to protect against the pass, the 2 back will have an open field and two blockers downfield as he selects the run option.

Our right wing reverse, as is shown in Diagram 5, is a part of the same sequence as the right end run and the optional pass. The reverse starts out the same as our end run. However, the 3 back, instead of blocking, turns

ANDREW GRIEVE has authored numerous articles for us on the six-man game. His two most recent articles appeared in the May and June issues. He began coaching at Wellsburg, New York following the war and five years ago moved to Van Etten where his team was undefeated last year and sports a 9-game winning streak.

to his left and goes behind the 2 back who hands the ball to him. The 2 back continues toward the right end, carrying out his fake. After tossing the clear pass to the 2 back, the 1 back spins to his left and drives into the center defensive lineman. This is an important block since the inside end is pulling out to lead the play around the left end. If the snapper is not able to handle the defensive end alone, then the inside end can double-team with him. The same maneuver applies to the outside end and the 1 back. If the 1 back can



DIAG. 6

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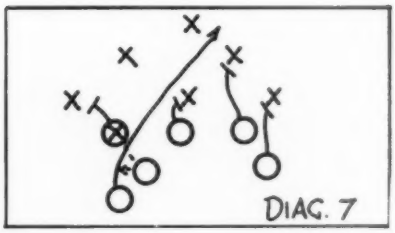
handle the middle lineman alone, then the outside end goes downfield for a halfback.

With a four-man defensive line the snapper should take the defensive lineman on his inside shoulder, while the inside end will have to block the defensive end alone. If he is forced to drive the end out, he should call *cut back* as was done in the end run.

The right wing fake reverse has probably been our most effective play from this formation (Diagram 6). The fake reverse begins exactly the same as the reverse. However, the 2 back fakes to the 3 back and hides the ball on his hip. We have found it more effective to shoot our inside end through rather than pull him in this particular play. The 1 back can help the outside end with the defensive end if necessary, but the fake will usually set this end up as an easy target. Likewise, the fake should set up the defensive halfback for the inside end.

The signal caller should run the end run and the reverse several times before calling for the fake reverse. He must remember that this play will be most effective the first time it is called and he should save it for the most opportune moment. It will lose much of its value after it has been called once as the defensive end will be extremely wary after he has been fooled the first time.

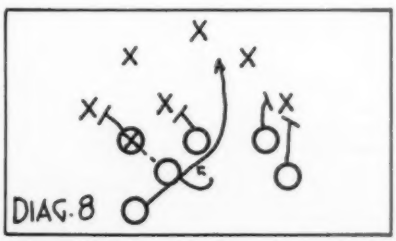


The plays shown in Diagrams 2 through 6 are quite simple; yet they have proved to be an extremely effective sequence since all five plays follow the same pattern of development.

Diagrams 7 and 8 show our right wing plunge. In the play shown in Diagram 7 the inside end has a good angle on the defensive center and can block him out of the hole. The outside end and the wingback determine which one can handle the defensive end and the other player goes downfield for a halfback. The 1 back, after receiving the snap, flips a soft pass to the 2 back. Actually, the 1 back merely lofts the ball in the air and the 2 back snags it on his way through while he is going at top speed.

Diagram 8 shows the same play with the middle defensive lineman playing in the hole. The inside end calls *right* as he gets in his set position which is the signal for the play to go through the opposite hole. The inside end drives his man to his left; the outside end and the 3 back double-team the defensive end. In the backfield the 1 back must slide to his right so the 2 back has a clear path on his slant to the new hole. Our inside end often calls *right*, when the play is other than the line plunge, so the defense will not become aware of our adjustment.

Diagrams 9, 10, and 11 show our buck lateral series. In all three of these plays the ball is snapped to the 1 back, who laterals to the 2 back. The 2 back does not charge when the ball is snapped as he did in the



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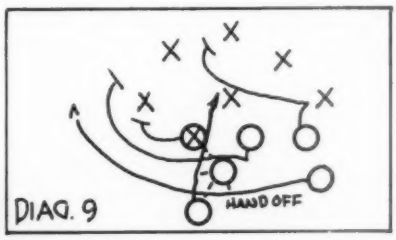
regular plunges, but he hesitates to make certain he has full control of the ball. Slipshod ball-handling will throw off the timing of these plays and may very well result in costly fumbles.

Diagram 9 shows the buck lateral give. As the 2 back charges up the middle he hands the ball back to the 1 back who has merely spun around and ends up facing the 2 back. The 3 back runs parallel to the line of scrimmage, receives a hand-off from the 1 back, and circles the left end. The inside end pulls to lead the play. The fake plunge should pull the defensive end in and give the inside end a good blocking angle.

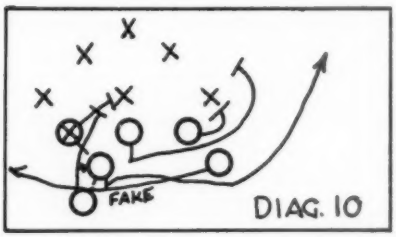
The buck lateral keep, as shown in Diagram 10, follows the same pattern as the buck lateral give. However, the 1 back, instead of handing off to the 3 back, fakes to him, hides the ball on his hip, and circles the right end. The inside end pulls out and leads the play. Between the fake plunge and the fake left end run the defensive end should be pulled in and again give the outside end a good blocking angle.

After running the buck lateral keep and the buck lateral give plays several times the defense is about ready for our fake buck lateral plunge (Diagram 11). The 2 back, as he drives forward after receiving the clear pass from the 1 back, fakes giving the ball back to the 1 back. He actually places the ball in the 1 back's hand and pulls it out again, much like the belly fake or rub play in the T formation.

Oftentimes the defense will be buck lateral conscious and this play will bring these players back to normal. It has not been unusual for the

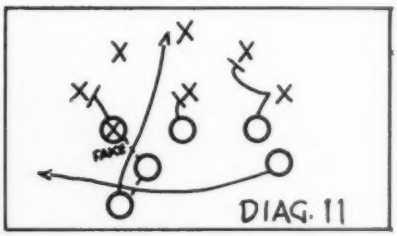


middle defensive lineman, who has been fooled by the buck lateral, to run right by the ball-carrier and tackle our 1 back. The strength of this play, of course, depends on good faking.



The timing on these buck lateral plays is extremely important and we spend a great deal of our practice time working on this timing.

All in all, we have found that the unbalanced right wing formation has



worked effectively for us. Undoubtedly, there are a great many variations that could be developed from this formation, but since it is only one of three formations we use, the number of plays is limited to the few we have mentioned.

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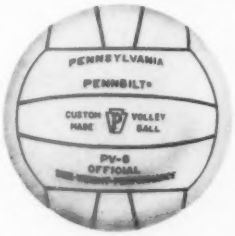

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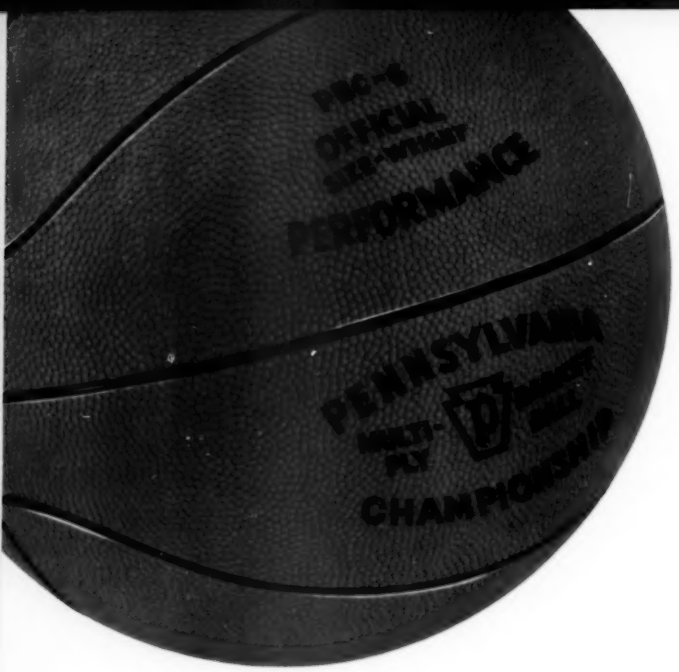

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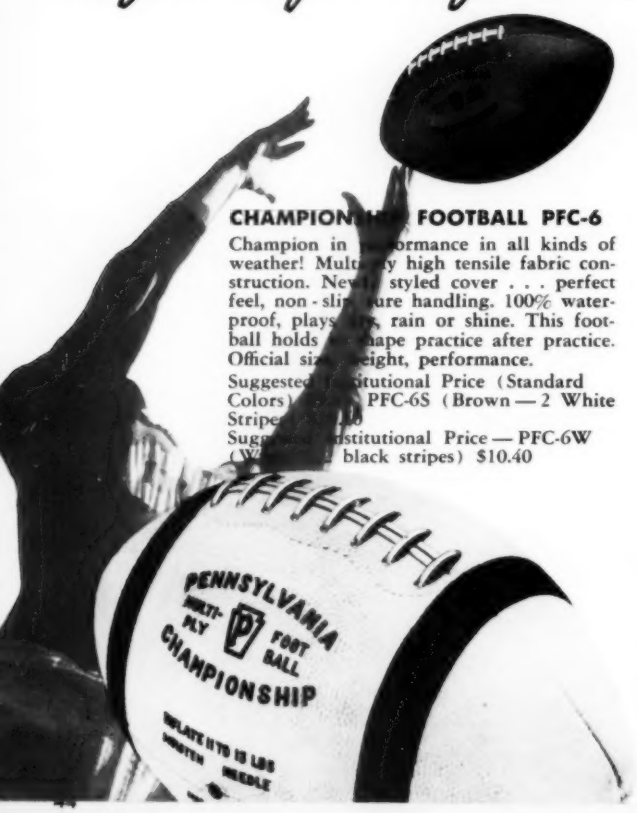

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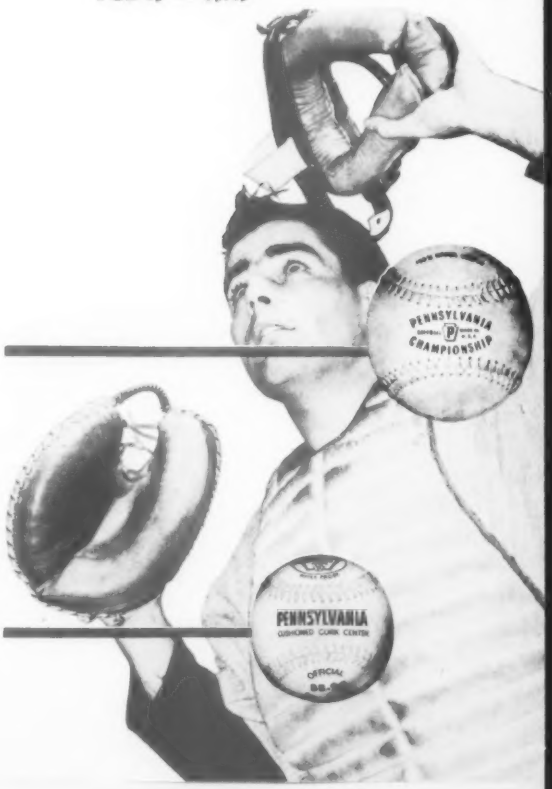

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4136A—7-53 LITHO. [illegible]

Drowning

(Continued from page 32)

ministered immediately. Time is such a vital element that not a second should be wasted. Even though the respiratory center might stand a possible five to fifteen minute respite without circulation, other nerve centers show disintegration much sooner.[5]

Karpovich concluded from his experiments that after five minutes of submersion, resuscitation becomes very doubtful though rescuers should never give up or take seriously reports from witnesses regarding the length of time the victim was believed submerged.[6]

There are a few cases on record where resuscitation has been successful on subjects who have been submerged for an apparent half hour period, but these are more of an exception than the general rule. Persons who have their respiration immediately stopped by striking their heads, receiving a blow on the solar plexus, injury to the back or neck, heart attack or fainting prior to drowning are found with a full complement of oxygen. The higher nerve cells are thus able to maintain their existence for considerably longer periods, especially so when the heart continues to work. It is always difficult to revive an individual who struggles and fights to survive because of the immediate depletion of oxygen and the increased CO_2 content of the blood. When the CO_2 content reaches a critical point, above 9 per cent, the respiratory center is depressed rather than stimulated.

Many asphyxiated victims are lost each year because of the layman's ignorance and know-how in providing artificial respiration and follow-up treatments. Generally a clogged respiratory passage is the immediate cause of most failures. Blood, vomitus, exudate or foam from the lungs, swallowed tongue or small objects aspirated into the pharynx, larynx, or trachea are not visible to the naked eye and so go unattended. Oxygen never reaches the starved lungs even though the rescuer religiously continues to apply artificial respiration. It is easily understandable why asphyxiation produces such a high

[5]Petroff, L., *Reanimation of Animals After Stopping of Cardiac and Respiratory Center;* Fisiol, Zhurn., 21, p. 34, 1936.

[6]Karpovich, Peter V., *Duration of Submersion in Drowning and Recovery; Swimming Pool Data and Reference Annual* 8, p. 66, 1940.

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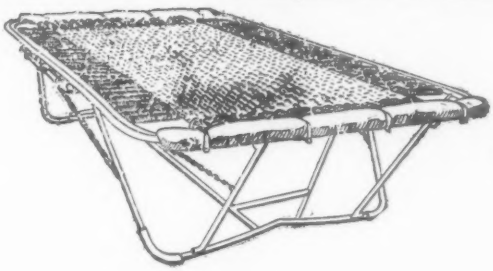

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mortality rate each year because of the unforseen complexities which exist.

A review of the literature indicates there have been over 70 manual methods of artificial respiration used. Of all the older methods, the Silvester technique has maintained a certain degree of use since 1861. The Schafer method was most popular in the United States during the past 50 years and it has now been found by a number of different authorities to be the least effective of all present-day methods and its use is not recommended.[7, 8, 9]

In certain instances where it is found advisable to place the patient on his back, the Silvester technique is used. One striking disadvantage of this method is with the victim's head in a face up position, the lung and stomach contents can easily find their way into the respiratory passage. The head should be turned as much to the side as is possible to allow for natural drainage and when the tongue is maintained forward the air passages to the lungs can be kept fairly clear. Silvester has two positive phases for inspiration and expiration. The victim's arms are stretched overhead on inhalation for two nad one-half seconds; then for exhalation, the victim's hands and forearms are pressed against his chest for another two and one-half seconds. Stretching the arms overhead provides greater lung ventilation.

Recent research experiments have shown the Schafer technique to be the least effective of all present-day methods because of the insufficient lung ventilation (tidal volume) and the general failure to maintain normal arterial oxygen saturation, At the University of Illinois, a group of adults were made apneic by an anaesthesia (barbiturate-curare-thiopental) and the different methods of artificial respiration were evaluated in relation to tidal volume of air (lung ventilation) and arterial oxygen saturation.[10, 11, 12, 13, 14]

The push and pull methods (back-pressure arm lift, back-pressure and hip lift, back-pressure and hip roll) were all found to be twice as effective in ventilating the lungs than the prone pressure Schafer method. The Schafer method failed to maintain normal arterial oxygen saturation and had to be discontinued in at least a third of the subjects for their safety. These authorities considered maintenance of adequate arterial oxygen saturation a more valid criterion of the efficiency of artificial respiration than tidal volume alone.

A summary of results showing the amount of pulmonary ventilation in c.c.'s for eleven subjects is as follows:[15, 16]

1. B P H L (back-pressure hip-lift)	1,199.6 cc
2. Silvester method	1,145.5 cc
3. B P H R (back-pressure hip-roll)	1,053.8 cc
4. B P A L (back-pressure arm-lift)	1,107.6 cc
5. Drinker Modification (two operators) Schafer method plus Neilson arm lifting	1,127.5 cc
6. Eva Rocking Method (teeter-board)	751.2 cc
7. Hip-Lift only	635.4 cc
8. Schafer Prone Pressure	500.6 cc
9. Hip-Roll only	445.1 cc

From the results of these significant studies, on December 6, 1951, the American National Red Cross, The Department of Defense, National Research Council, and the Public Health Service released a joint statement on the acceptance of the back-pressure arm-lift method (Holgar

[7]Water, R. M., Bennett, J. H., *Artificial Respiration Comparison of Manual Maneuvers;* Anesth. & Anal. 15, 151 (May-June 1936).

[8]Amussen, E., Nielson, M., *Efficacy of Artificial Respiration; Journal of App. Physiol.* 3, pp. 95-102, Aug. 1950.

[9]Cureton T. K., *Recent Experimental Comparisons of the Resuscitation Method at the University of Illinois; Nat. Y.M.C.A. Aquatic News,* No. 3, p. 8, Sept. 1950.

[10]Sadove, Max S., Gordon, Archer S., Nelson, John T., and Ivy A. C., *Barbiturate-Curare-Induced Apnea for Artificial Respiration Studies of Normal Adults; Journal of Applied Physiology,* Vol. 4, No. 6, p. 403, Dec. 1951.

[11]Gordon, Archer S., Prec, Oldrich, Wedell, Harold., Sadove, Max S., Raymon, Frank., Nelson, John T., and Ivy, A. C., *Circulatory Studies During Artificial Respiration on Apneic Normal Adults; Journal of Applied Physiology,* Vol. 4, No. 6, p. 421, Dec. 1951.

[12]Karpovich, Peter V., Hale, Creighton J., Bailey, Theodore, L., *Pulmonary Ventilation in Manual Artificial Respiration; Journal of Applied Physiology,* Vol. 4, No. 6, p. 458, Dec. 1951.

[13]Whittenberger, J. L., Affeldt, J. E., Goodale, W. T., and Sarnoff, S. J., *Mechanics of Breathing in Relation to Manual Methods of Artificial Respiration; Journal of Applied Physiology,* Vol. 4, No. 6, p. 476, Dec. 1951.

[14]Nims, Robert G., Conner, Eugene H., Botelho, Stella Y., Comroe, Julius H., Jr., *Comparison of Methods for Performing Manual Artificial Respiration on Apneic Patients; Journal of Applied Physiology,* Vol. 4, No. 6, p. 486, Dec. 1951.

[15]Gordon, H. S., Raymond F., Sadove, M., Ivy, A. C., *Manual Artificial Respiration; The Journal of the American Medical Association,* Vol. 144, No. 17, p. 1447, Dec. 23, 1950.

[16]Gordon, A. S., Fainer, D. C., Ivy, A. C., *Artificial Respiration;* Council on Physical Medicine and Rehabilitation. *The Journal of the American Medical Association;* Vol. 144, No. 17, p. 1455, Dec. 23, 1950.

[17]Department of Defense, Office of War Information, *Manual of Artificial Respiration;* Washington, D. C., Dec. 6, 1951.

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Neilson) to replace the Schafer technique (Illustrations 1, 2, 3, and 4).[17]

The standard technique for executing the back-pressure arm-lift method of artificial respiration is as follows:[18]

Position of the subject: The subject should be placed in the face down, prone position. His elbows should be bent and his hands placed one upon the other. Turn his face to one side, placing the cheek upon his hands. Have his neck straight. His head should be lower than his feet. Check the mouth for his tongue. If the tongue has fallen back in his throat, insert a finger and pull it forward so the respiratory passage is not blocked.

Position of the operator: The operator should kneel on either his right or left knee at the head of the subject, facing him. He should place his knee at the side of the subject's head close to his forearm. Place the opposite foot near the subject's elbow. If he finds it more comfortable, the operator can kneel on both knees, one on either side of the subject's head. The operator should place his hands upon the flat of the subject's back in such a way that the heels of the hand lie just below a line running between the subject's armpits. With the tips of the thumbs just touching, the operator should spread his fingers downward and outward (Illustration 2). Artificial respiration should be started quickly.

Position for expansion phase: When the operator releases the pressure he should avoid a final thrust, and commence to rock backward slowly. He should place his hands upon the subject's arms just above his elbows.

Expansion phase: In this phase the operator should draw the subject's arms upward and toward him. Just enough lift should be applied to feel resistance and tension to release the subject's chest weight from the floor. The operator should not bend his elbows because as he rocks backward, the subject's arms will be drawn toward him. Then the operator drops the subject's arms to the ground. This completes the full cycle. Arm lift expands the chest by pulling on the chest muscles, arching the back, and relieving the weight on the chest.

The cycle should be repeated twelve times per minute at a steady uniform rate. The compression and expansion phases should occupy about equal time; the release periods should be of minimum duration.

Even though the Schafer method was easier to perform, easier to learn, and generally took less energy to administer, the push and pull methods are far more effective in reviving a victim because of the increased circulating oxygen and improved ventilating factors.[19, 20, 21, 22]

One of the greatest difficulties in all cases of asphyxiation (especially for the layman) is to ascertain whether or not the air passages are clear from the mouth to the lungs. Very often, especially in submersion cases, some water finds its way into the vic-

[18]American National Red Cross. *Standard Technique for Executing the Back-Pressure Arm-Lift Method of Artificial Respiration;* Supplement to First Aid Textbook and Life Saving and Water Safety Textbook. Washington, D. C., 1951.

[19]Gordon Archer S., Raymon, Frank, Sadove, Max S., Wedell, Harold, Ivy, A. C., *Energy Expenditure of Operators During Manual Artificial Respiration; IV Journal of Applied Physiology,* Vol. 4, No. 6, p. 439, Dec. 1951.

[20]Karpovich, Peter V., Hale, Creighton J., *Manual Artificial Respiration, Pedagogical and Fatigue Factors Involved in Its Use; Journal of Applied Physiology,* Vol. 4, No. 6, p. 472, Dec. 1951.

[21]Karpovich, Peter V., Hale, Creighton J., *Energy Expended in Administering Artificial Respiration; Journal of Applied Physiology,* Vol. 4, No. 6, p. 467, Dec. 1951.

[22]Gordon, Archer S., Star, Shirley, Meier, Fred, Hale, Creighton, Ivy, A. C., *Pedagogical and Performance Factors of Manual Artifical Respiration with Naval Personnel; V Journal of Applied Physiology,* Vol. 4, No. 6, p. 447, Dec. 1951.

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tim's lungs and this results in an irritation of the bronchial and alveolar areas. An exudate or foam may be present and if the glottis reflex is still functioning and the victim is still conscious, coughing will result in ridding the windpipe of this material. On the other hand, if the gagging reflex is missing, which is so often the case in the later stages of asphyxia due to either an impairment of the glottis reflex or a loss of muscle tone, further blockage material such as blood, foam, water, etc., enters the respiratory passage. Unless this material is aspirated from the trachea and larynx by mouth sucking or by using a catheter (tube in resuscitator) little or no air will be able to get by this blockade to the lungs. The victim continues to drown in his own masses.

There is generally a small amount of water which enters the lungs; however, a great deal of water often enters the stomach when drowning occurs and generally within a short time there is a regurgitation of vomitus material. This reaction is greatly enhanced if the liquid is salt water. In the early stages of asphyxiation any blood or vomitus material stimulates and throws the glottis reflex into a spasm. This is nature's way of making every attempt to keep material out of the windpipe. However, any inspiratory effect (as from artificial respiration) opens the glottis and results in sucking more blockage material into the air passages. For this reason the rescuer must pay particular attention to the first few expirations and listen for air coming out of the victim. An assistant might be delegated to listen for the outcoming air and to clear away any material that is regurgitated or other foreign objects such as dentures, gum, etc., which might easily find their way into the windpipe. It is also important to clutch the subject's tongue and check occasionally to see that his tongue has not fallen back into his throat.

Mechanical Methods

All methods of resuscitation which involve using some type of equipment will be considered mechanical methods. These methods are to be differentiated from the manual methods which are done by hand. All mechanical appliances for use on the asphyxiated have one startling weakness — the machine is often not readily available when needed, nor is there always an experienced operator present. Since the time which elapses between asphyxiation and the start of resuscitation is such an important factor in all non-breathing cases, manual hand methods will always be more valuable and important.

Rocking or Teeter-Board Method

In 1944 Dr. Frank Eve of England advanced the teeter-board method of resuscitation.[23] This method involves placing the victim face down on a stretcher or board with his arms stretched above his head. His legs and arms are strapped to the teeter. First, his body is swung down to a 45° tilt and maintained in that position until all water drains from his windpipe and stomach. Then his body is tilted feet down and repeated head down again approximately 30 degrees each way for 10 double rocks a minute. Dr. Eve estimated that the average amount of air per rock as 580 cc which is about half that obtained by the back-pressure arm-lift method.

Dr. Eve contends that his method provides an artificial circulation of blood which is highly essential in all cases of asphyxiation. The blood must transport oxygen and without an adequate movement of blood, air fails to reach the starved heart muscles and higher brain cells. The theory behind the rocking method is that the abdominal organs push the diaphragm up when the head is tilted down thus forcing air out of the lungs and aids in filling the right auricle of the heart. When the pressure is relieved on the diaphragm in the feet down position, the air rushes in and gravity aids the descent of blood through the abdominal aorta. In the

[23]Eve, Frank C., *Resuscitation of the Drowned Today; The Journal of American Medical Association*, 124, p. 964, April 1, 1944.

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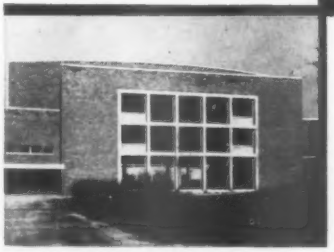

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later stages of asphyxiation when tonus has partially subsided, the Eve method would be particularly effective because of this forced circulation factor. Even though the British Navy and the United States Coast Guard adopted the Eve method because teeter-boards would always be available on ships, other agencies have not adopted this method because the disadvantages outweigh the advantages.[23, 24] In most water accidents the teeter-board would not be available and for this reason alone equipment cannot replace human hands. When the teeter-board is used some time may be lost in mounting the victim on the stretcher and it is necessary, as recommended by Eve, that manual methods be used while securing or rigging the victim on the board. Stomach contents could find their way into the windpipe when the head is tilted down and another disadvantage is that the volume of air is not always sufficient.

Resuscitator

There have been many types of mechanical devices used for asphyxiation. In the late nineteenth century mechanical hand bellows were known to have been used to blow air up the nostrils. These were followed by the early model pulmotors which forced oxygen into the lungs through a face mask. Oftentimes these pulmotors ruptured lung alveoli due to the rescuer's inability to regulate correct pressure. The early machines or lung pumps were both costly and exceedingly complicated to operate and the average layman was at a loss operating one. The operator had to guess the volume of air necessary for each victim and generally the guess was too high with the result that lungs were torn or ruptured and the victim drowned in his own masses.

It was not until 1927 that Johnstone and Erickson invented the resuscitator, a machine that would allow oxygen to flow from a tank into a series of reducing valves via a face mask to the victim. Fourteen mm of mercury positive pressure was established for inhalation and a minus nine of mercury negative pressure for exhalation. This pressure was the same for every individual and when it was reached, the valve cut off the flow channel and opened automatically the exhaust passageway. The machine makes automatic adjustments to fit each individual.[25]

In 1937 the resuscitator was accepted and approved by The American Medical Association. The modern-day resuscitators are not considered foolproof. Portable models consist of a case usually with two tanks, valves, small hose, and a plastic face mask (smaller size for children). Safeguards are provided in the form of irregular clicks and hisses when the machine is not functioning properly. It hisses when the face mask is improperly applied to the patient's nose and mouth, and clicks irregularly when there is any obstruction in the air passages. By turning the valve to aspiration and by inserting a catheter into the throat (face mask must be removed) the machine will suck out vomitus or blocking-material into a bottle. The machine has a rhythmic

[24]United States Coast Guard, *Methods of Artificial Respiration;* Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., June 1948.

[25]Yoder, Robert M., *It Could Save Your Life; The Saturday Evening Post,* June 24, 1950.

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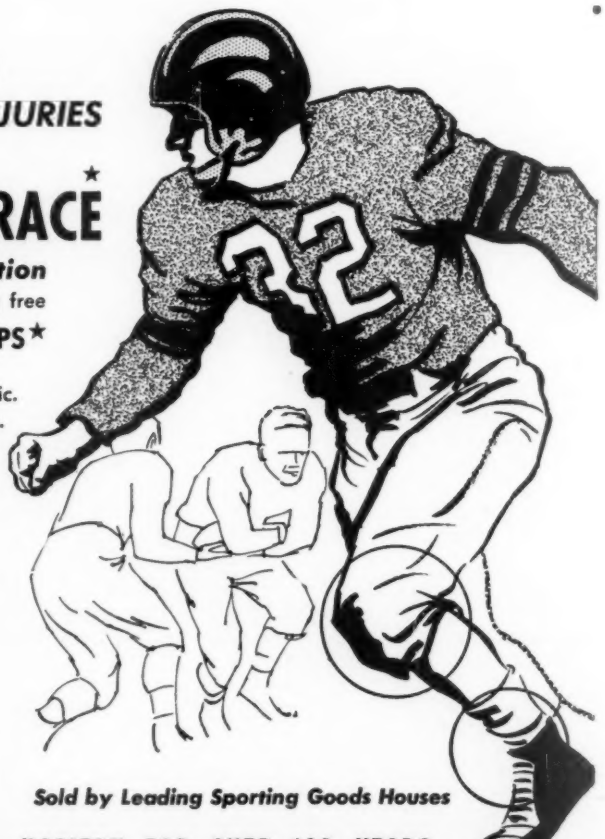

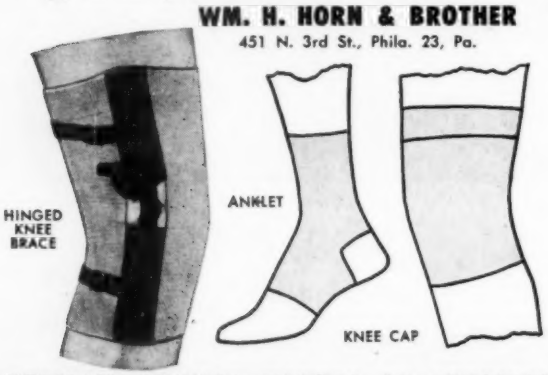

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click when all is functioning normally. When breathing starts, an irregular clicking results and the operator stops the operation. In cases where CO_2 and O_2 are desired in combination (the former gas to stimulate the respiratory center) modern resuscitators are so equipped to be used as inhalators.

The resuscitator is recommended for all cases of asphyxiation. Manual hand methods of artificial respiration should be applied until the arrival of the resuscitator. Most hospitals, fire stations, and ambulances are equipped with resuscitators and may be obtained in an emergency by telephone. Even though the resuscitator is generally superior to the manual methods, it will never replace them because the machine is never readily available when it is most urgently needed. The American Medical Association Council of Physical Medicine, Chicago, Illinois will send to any person a list of accepted inhalators and resuscitators.[26]

Summary

There have been over seventy different techniques of artificial respiration reported in the literature and all have had some degree of effectiveness in reviving the asphyxiated. For the past half century in the United States, the Schafer technique has been the most popular method of resuscitation primarily because of the impetus given it by the American National Red Cross. During the past few years, however, a number of research investigators have questioned the Schafer technique as providing too little lung ventilation and oxygen concentration. Newer techniques and variations have been recommended such as the back-pressure arm-lift (Nielson Method), back-pressure hip-lift and the back-pressure hip-roll. The Department of Defense, American National Red Cross, National Research Council, and the Public Health Service as of December 6, 1951 recommended the back-pressure arm lift (BPAL) method for all cases of asphyxia. Due to its ineffectiveness, the Schafer technique was discarded.

The back-pressure arm-lift method does provide more adequate lung ventilation than the Schafer technique. As long as inherent tonicity of the diaphragm and rib muscles as well as the sensory receptors in the lung tissues are present, a manual method providing a nearly normal intake of air will be highly success-

[26]Council on Physical Medicine of the American Medical Association, 535 N. Dearborn St., Chicago, Illinois.

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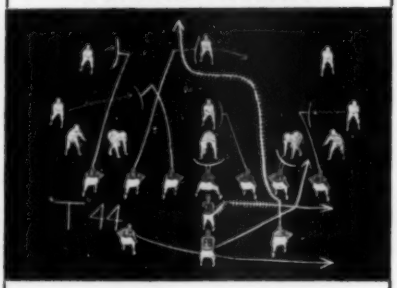

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ful in reviving a victim. No matter what technique is applied to a victim of submersion, if tonus has departed from the vital respiratory muscles, manual resuscitation is not too effective. It is in these latter stages of asphyxiation, where tonus has subsided, that the resuscitator with its positive and negative pressures becomes doubly effective. Many cases of drowning are lost because of the blockage of the air passages by vomitus, blood, foam, etc. It is highly essential that the rescuer listen for the outcoming air when manual pressure is applied in order to be sure that the respiratory passage to the lungs is clear. Further resuscitation is useless if there is a blockage and immediate steps must be taken to clear the passageways. Sucking by the mouth has to be resorted to if no resuscitator is present. Modern resuscitator machines are equipped to clear an obstructed windpipe (aspirator phase).

Since time is such an important factor in all cases of asphyxia, the back-pressure arm-lift method should always be used until the arrival of a mechanical resuscitator. There should be a slight inclination of the body when placing the victim down to allow for natural drainage from the trachea (windpipe) and stomach.

Backfield Play

(Continued from page 15)

keep his eyes on the ball he is to receive. The fullback will push the point of the ball firmly into his hands.

Although Iowa's multiple offense demands many variations of techniques in backfield play, we feel the players enjoy these differences and thus are more eager to learn. Since poor ball-handling may be caused by tenseness, carelessness, or lack of fundamentals, most of our drills are designed to help us accomplish sharper execution.

Iowa Offense

(Continued from page 9)

gained through the use of a multiple offense offset the disadvantages. Admittedly, we do not have the smooth execution of many single wing or split T teams, but we feel that this lack is more than compensated because of the defensive alignment we can force our opponents to use.

We have tried to spend an equal amount of time on all our offenses at the start of the season. As the season progresses we try to polish one style of offense for any particular game. I have asked my fine assistants —Bob Flora, line coach, Bump Elliott, backfield coach, and Whitey Piro, end coach to give some of the problems we have encountered in using the multiple offense and tell what we are doing to get the job done.

End Play

(Continued from page 11)

of his run, running hard and fast in a straight line. The ends also use a hook pattern. They run downfield about nine yards and pivot on the inside leg, dragging it to a complete stop while taking another step with the outside leg, pivot, and then take one step towards the passer while in a semi-crouch position.

Covering Punts

The end's responsibility, after completing his assignment on the line of scrimmage, is to get downfield as fast as possible and protect his team's outside. He gets downfield position by moving in as straight a line as possible, using his hands, fakes, and change-of-pace to ward off blockers. On approaching the punt receiver, the end should cut down his speed about four or five yards from the safety to gain better balance and outside position. He is then in position to turn the runner into his linemen or make the tackle himself.

Line Play

(Continued from page 10)

our linemen split approximately one yard, we have almost an open field block. We have experimented with several types of protection and have finally used man-for-man. By using man-for-man protection and having the men stay in the line and aid the adjoining linemen, instead of having the free men drop back into the pocket, we have found the gaps are lessened and protection is easier. Having the free man drop back widens the gaps and gives the defensive linemen more room to maneuver. We work on split T pass protection for five minutes every day, using teams as on the one-on-one block, and setting up any number of defensive formations.

These are the primary problems we have experienced in our line play in the past two years in combining the unbalanced split T with the single wing.

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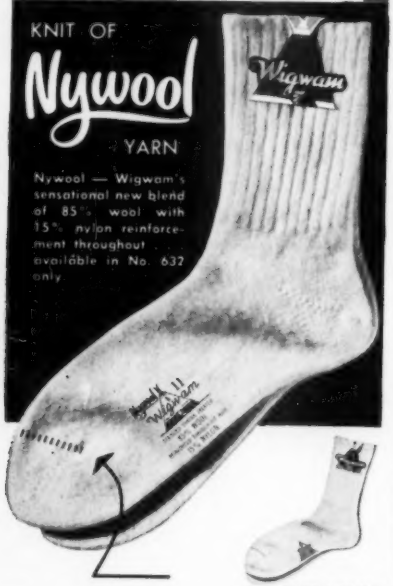

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11	Red
12	Blue
13	Orange

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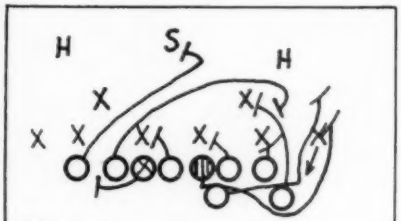
Rule Blocking

(Continued from page 23)

2 Hole Blocking Rules

Strong-side end—posts the man over him; if there is not a man over him, he drives in on the first man inside of him. Outside tackle—if there is a defensive man over the strong-side end, the outside tackle blocks the next defensive man inside of the strong-side end in alone; if not, he posts on the first defensive man inside of the strong-side end. *Inside tackle*—pulls through the hole and blasts the nearest linebacker. *Strong-side guard*—blocks the man over him or inside him in. *Center*—if there is a man over the strong-side guard, he blocks the man over him in; if not, he checks the first man inside of him. *Weak-side guard*—if there are two linebackers, he blasts the nearest one out; if not, he cracks in. *Weak-side end*—cracks the safety out; if not, he cracks out. *Wingback*—if there is a man over the strong-side end, he drives in; if not, he blasts in. *Quarterback*—blocks on the first man past the 2 hole.



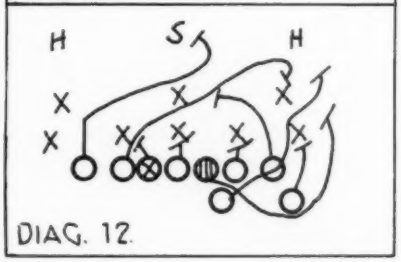
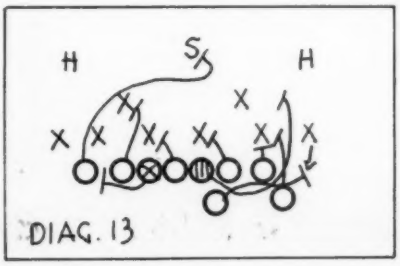
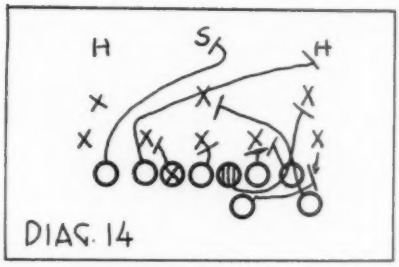


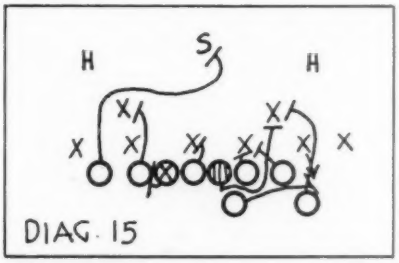
Diagram 13 shows our 2 hole blocking against a six-man line, Diagram 14 against a 5-3-2-1, Diagram 15 against an overshifted six, Diagram 16 against a 7-2-2, Diagram 17 shows 2 hole blocking against a 5-4-2, Diagram 18 against a 7-1-2-1, and Diagram 19 against a 6-3-2.





3 Hole Blocking Rules

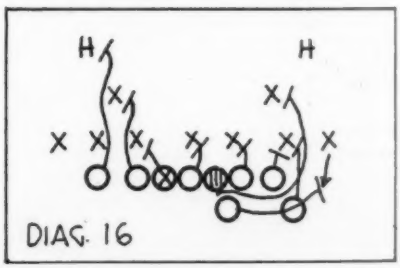
Strong-side end—drives in on the first man inside of him. *Outside tackle*—always posts on the first man inside of the strong-side end. *Inside tackle*—blocks the first man inside of him in. *Strong-side guard*—trap blocks the man over or the first man outside of our strong-side end. *Center*—posts the man over him; if not, he checks in.



Weak-side guard—pulls through the 3 hole and blasts the nearest linebacker. *Weak-side end*—checks the man over him for 1 count and cracks the safety out. *Wingback*—if there are more than two linebackers, he blasts in; if not, he cracks out. *Quarterback*—fakes down the line of scrimmage outside the end, except when he is involved in ball-handling. Diagrams 20 and 21 show how our rules apply against a six and a five-man line.

4 Hole Blocking Rules

Strong-side end—blasts in on the



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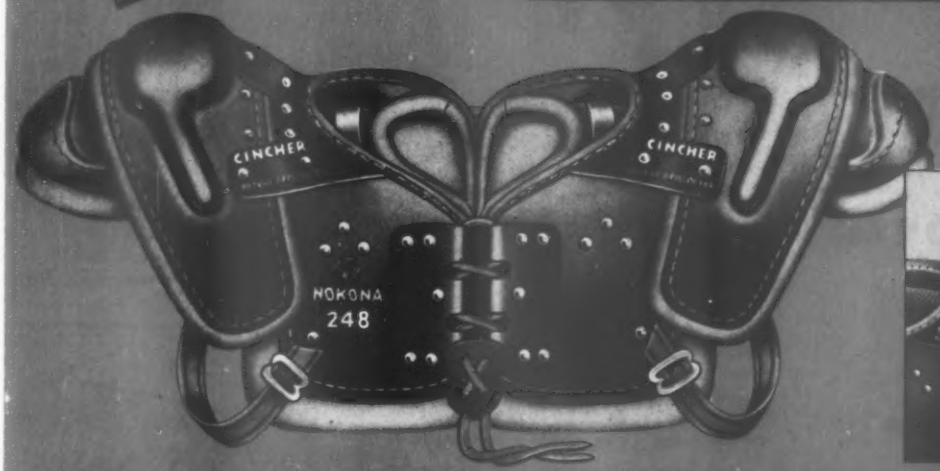

Note construction of "CINCHER" feature.

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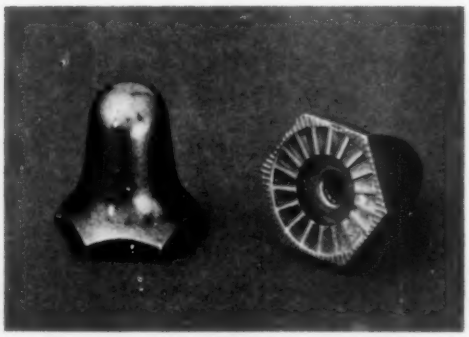
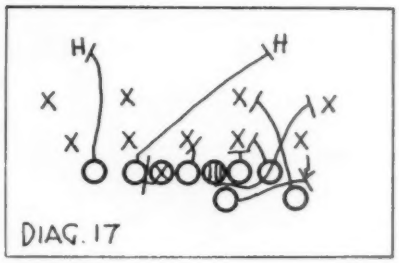
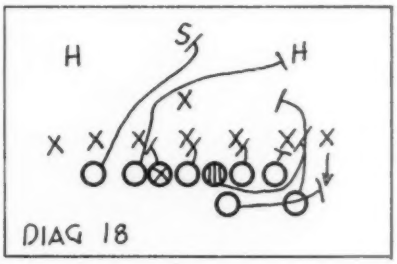




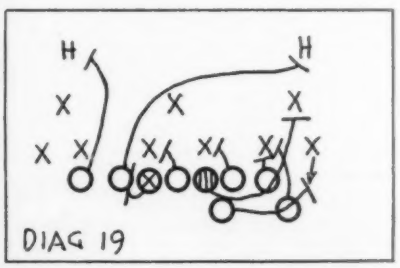
linebacker over the outside tackle or the first player inside. *Outside tackle*—dip steps and blasts out. *Inside tackle*—if there is a man over the strong-side guard or his inside gap, the inside tackle drives in; if not, he has the option of pulling deep around the 1 hole or blasting in. *Strong-side guard*—posts the man over or in inside the gap; if there is not a defensive player in this position, he drives to the inside. *Center*—posts the man over him; if there is not a man over him, he checks the first man inside. *Weak-side guard*—traps the man over or the first man past the inside tackle. *Weak-side end*—checks the man over him for

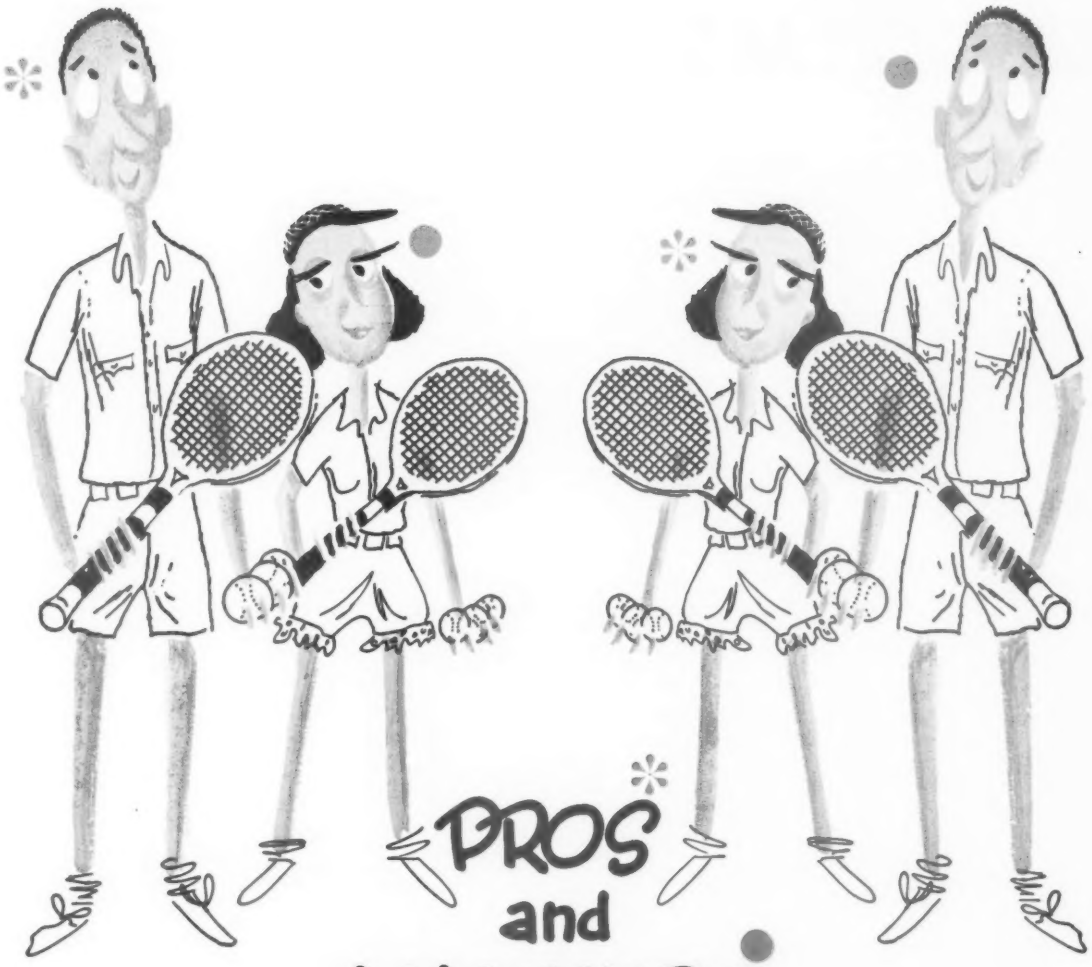


1 count and then cracks the safety out. *Wingback*—cracks out. *Quarterback*—traps the second defensive man past the strong-side guard. Diagrams 22 and 23 show how our rules apply against the six and five-man lines.

5 Hole Blocking Rules

Strong-side end—traps the man over the 5 hole or the first man beyond. *Outside tackle*—posts the man over; if there is not a man over, he blocks the next man outside of him out. *Inside tackle*—posts the man over or on the inside gap; if there is not a





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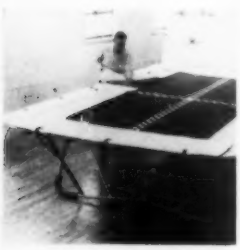

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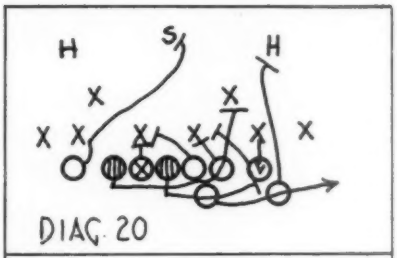
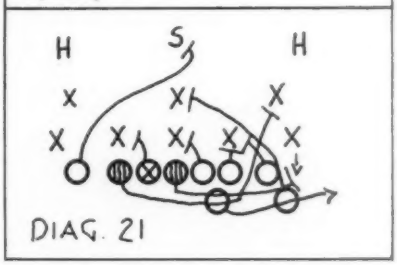


DIAG. 20

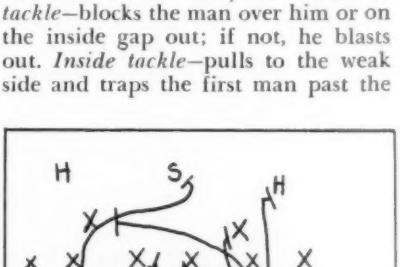


DIAG. 21

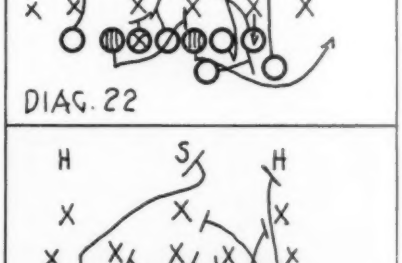
man over, he drives the man outside of him out. *Strong-side guard*—if there is a man over the inside tackle or his inside gap, the strong-side guard drives out; if not, he pulls down the line past the 9 hole. *Center*—dip steps in, then blasts in. *Weak-side guard*—blasts in. *Weak-side end*—fakes block in on the man over him and cracks out. *Wingback*—cracks the safety out. *Quarterback*—jab steps to the strong side, then traps the first man inside the center except when he is involved in ball-handling. Diagrams 24 and 25 show how these rules apply against a six and a five-man line.

6 and 7 Hole Blocking Rules

Strong-side end—check blocks out on the man over him for a 2 count and cracks the safety out. *Outside tackle*—blocks the man over him or on the inside gap out; if not, he blasts out. *Inside tackle*—pulls to the weak side and traps the first man past the



DIAG. 22



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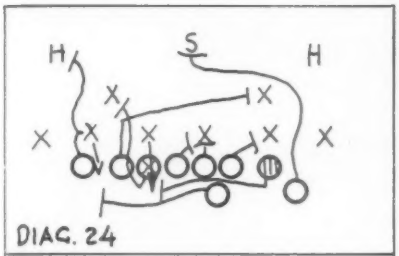
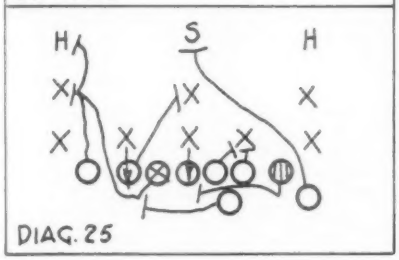


DIAG. 24



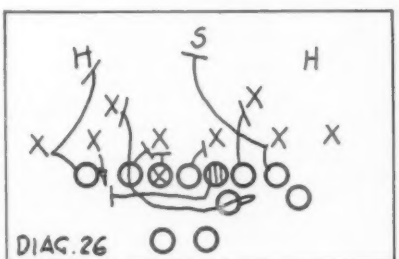
DIAG. 25

center. *Strong-side guard*—posts the man over or on the inside gap; if there is not a man in this position, he drives out. *Center*—posts the man over or drives out. *Weak-side guard*—drives in on the man over the center; if there is no one over the center, he blasts in. *Weak-side end*—blocks the first man outside of him out for one count and cracks out. On T plays the weak-side end blasts out. *Wingback*—if he is not involved in backfield action, he cracks out. *Quarterback*—when he is not involved in ballhandling he jab steps to the strong side, then pulls through the hole on the weak side, and blasts in. Diagrams 26 and 27 show these rules in action.

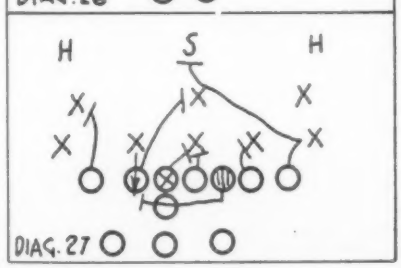
8 Hole Blocking Rules

Strong-side end—if there is a defensive man over the outside tackle or on his inside gap, the strong-side end pulls to the weak side through

(Continued on page 80)



DIAG. 26



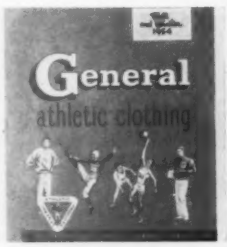
DIAG. 27

THIS new combination aerating and renovating machine is called the Renovataire and is used to get air, moisture, and fertilizer down to the roots of Bermuda grass and other running stem turfs. The machine has giant 22-inch wheels with saw-toothed knives which control long stem grasses and make numerous slits without tearing the surface. The value of aeration on athletic fields is well known and this is the answer for fields in the South. Soilaire Industries, Minneapolis 3, Minn.

THIS new Crouse-Hinds floodlight, MDB-10, is available with either flat base or suspension assemblies which means that it may be mounted either on the ground or on elevated metal arm brackets. It is made of lightweight sheet aluminum and is 11⅛ inches across the lens face. Tools are unnecessary to relamp the fixture since a single clamp is used to latch the hinged door. Additional information may be secured by requesting Bulletin 386-F. Crouse-Hinds Co., Wolf and 7th North Sts., Syracuse, N. Y.

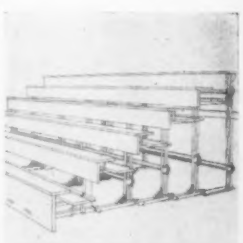
ONE of the nicest coaching aids to come across our desk in some time is this booklet on *Organization of Teams and Tournaments.* The material was prepared by Aileene Lockhart and June Mott of the physical education staffs of UCLA and USC. Ten different types of tournaments are discussed along with material on choosing the proper type of tournament. The booklet is distributed as a service by National Sports Equipment Co., Fond du Lac, Wisc. There is a charge of 50 cents for postage and handling.

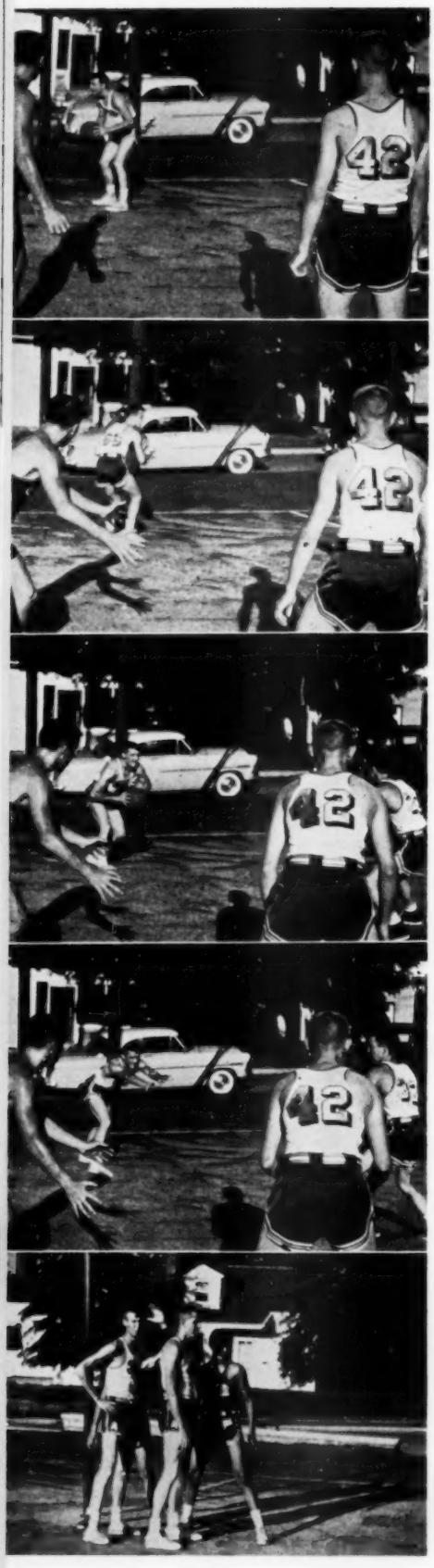
AMONG the items featured in the new 16-page General Athletic Products catalog is the new GR Jersey. This is a tear-away jersey that is guaranteed to tear if the runner is tackled on the sleeve or body of the jersey. This jersey has set-in sleeves, seamed sides, and underarm gussets. Also featured is the new T shirt and pant gym suit combination. A most attractive catalog free from The General Athletic Products Co., Greenville, Ohio.



PICTURED is the world-famous American Hand Dryer which includes General Electric's Ozonaire System. This system destroys objectionable odors with ultraviolet rays. The dryer will dry hands completely in 18 seconds and it shuts off automatically after a 30-second cycle. The nozzle can be revolved 360 degrees. The unit is tamper-proof and is guaranteed for 2½ years. Special hair dryer models are also available for locker rooms. These dryers are distributed by Huntington Laboratories, Inc., Huntington, Ind.

A completely new design is featured in all Telescopic gym seats installed by Medart. The new design incorporates the use of 4 sets of dual angle vertical uprights tied together with a channel bracing for each seat row. Although the strength has been greatly increased, weight reductions up to 70 pounds per row have been made possible. The "Dual-Align" rubber-cushioned roller housings are keyed together and interlocked for straight-line trackage. Fred Medart Products, Inc., 3535 DeKalb St., St. Louis 18, Mo.





The Vertical Post Offense

By Roy T. Baker
Basketball Coach, Argentine High School, Kansas City, Kansas

IN spite of the *run-and-shoot, hope we're hot tonight* brand of basketball offered by some teams today, the team that has a consistently potent offense must have a definite pattern of play. Fast breaking and long passing work well against a team that is weak in defensive tactics, but when the fast break meets a team that is sound in the fundamentals of defense, it must have a well-organized pattern of offense, or it will be in for a *long evening.*

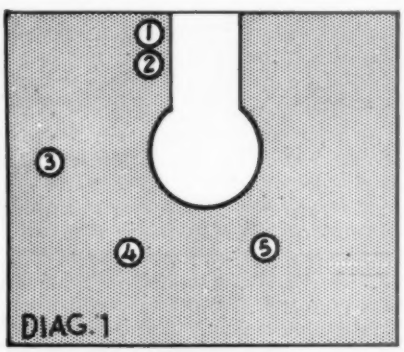
A post offense of some kind finds favor with almost all coaches, and is included in their repertoire wherever possible. However, the handicap which faces many high school coaches is the lack of an agile, large man, so necessary in most styles of post play. For that reason we find the vertical post fits well into our system. We feel that it has several advantages over the more conventional style of post play. Most important probably is the fact that the vertical post can be operated with boys of ordinary size as well as with the *skyscrapers.* Another advantage is the great variety of easily learned options possible with this formation. Again, the very fact that it is such an unorthodox formation makes it harder for opponents to defense. Finally, the vertical post offense can be used against either a man-for-man or any type of zone defense with a minimum of adjustment. These factors all help to make this pattern of play fit into almost any high school system.

Against any type of man-for-man defense that will sink back enough to allow us to reach the front third of the court we set up as shown in Diagram 1 and Series A. The men who seem to have the best qualities for post men are placed in positions O1 and O2, but their positions may be handled by players who are far below the height usually felt to be essential for post play. If there is any great difference in height, or if one player is a better jump or pivot shot, we usually play him in the O1 spot. If desired, O1 and O2 may be alternated at will.

THE high-speed photos accompanying this article were taken during the past summer when so much of the Middle West was experiencing 100° heat. These pictures were taken late in the day with the temperature registering 108°. We are grateful to Roy Baker and his boys for their splendid co-operation under such adverse conditions.

O1 takes his position just outside the free throw lane and 18 inches in from the baseline. We keep the width of one board from the free throw lane stripe to be sure that we are not guilty of the free throw lane violation. O2 is directly in front and against O1 who places his hands on O2's hips at the waist. While this position is not legal in the case of a throw-in from out of bounds, if a defensive player wants to go between O1 and O2, it is legal in this situation. The offense is entitled to any position desired, if the player gets there first; and if the defensive player pushes or attempts to thrust himself between palyers O1 and O2 he is guilty of a foul.

We find it advisable for the man in the O2 position to call the options,

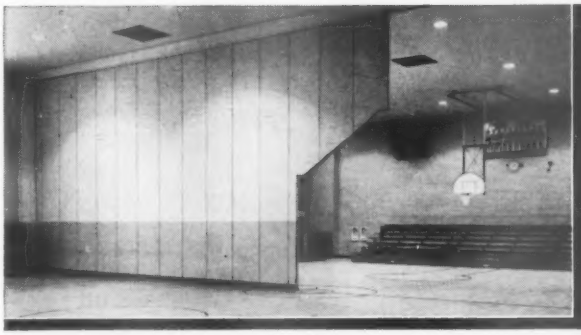


DIAG. 1

Series A

The GYMNASIUM with four walls ...but many sides

(in Hammond Technical Vocational High School, Hammond, Indiana)



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Series B

although this point is up to the discretion of the individual coach. We have the options which are called by the position of O2. For one option he stands erect with his hands on his hips; for another he bends with his hands resting on his knees, but his feet are together. Another option calls for his hands to be on his knees, but his feet spread, etc. Of course, each coach will work out his own signals. We prefer this method over calling numbers or signaling with the hand. There is less confusion and less chance of a misunderstanding in a noisy, tense game. We feel that O2 is in the best position to diagnose the defensive maneuverability, and he is in clear view of his teammates at all times.

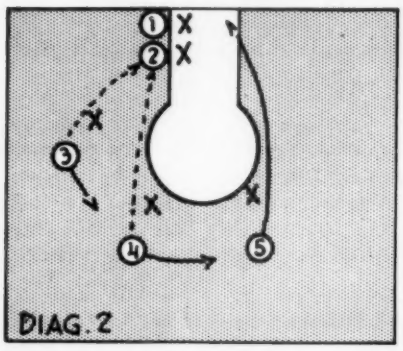
O1 is our offensive quarterback. He is our best passer, and should have the ability to diagnose scoring situations instantly. He must also be skilled in the use of the reverse pivot. Above all, he must be able to pass accurately and swiftly with either hand without *telegraphing* his passes.

O3 is our second best feeder, and he should also be adept at driving in for a short jump shot if the defense presses too closely. O5 is our best set shot. Even though a certain option has been called, any time his man sinks back off him, O5 must be ready for a pass from O4 without warning. In some situations O5 may also receive a return pass from one of the post men. Therefore, he must be alert and on this spot. He will also go in for rebounds on certain options.

Now we are ready to take up the various options which we have found work the best. It must be borne in mind that some simple, clear signal must be worked out for each option.

Diagram 2, and Series B show the defense playing between the offensive men and the basket. This is the defense that will usually be set up

Series C



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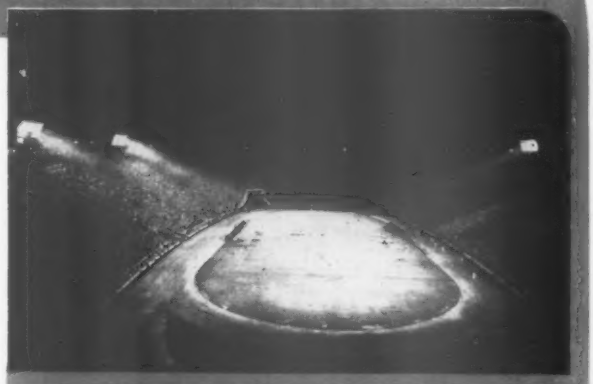

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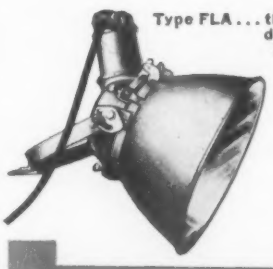

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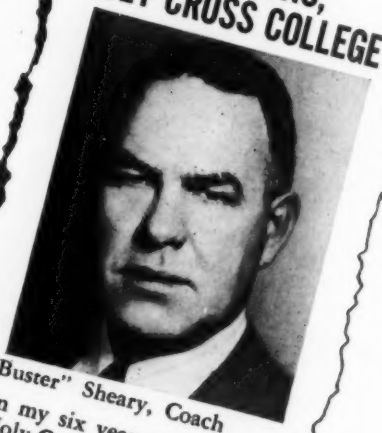

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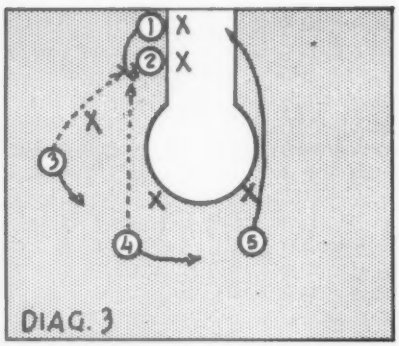
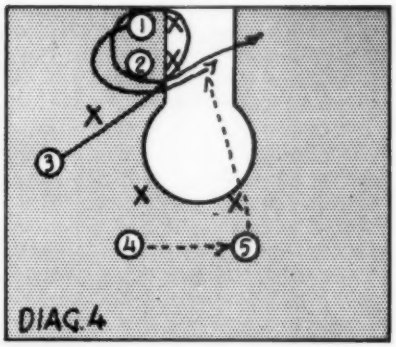


DIAG. 3

against this formation. We run three options against this defense. If O2 can use his left hand, he signals for the option that brings the ball to him from O3 or O4, who have been passing it back and forth, using reverse pivots to prevent interception, and faking attempts to pass in or shoot. If the defense presses O3 and O4 closely, they will drive around the defense for a jump shot. This must be done occasionally to keep the defense honest. The pass in to O2 should be high and to his right, or it should be a bounce pass directly to his right. O2 takes one step directly sideward with his right foot which then becomes his pivot foot, pivots, and shoots with his left hand directly over O1 who has taken one step with his left foot and made a forward half-pivot. This places O1 in position to screen for O2, and O1 is also facing the basket in excellent rebound position. O5 comes in for the rebound on his side, with O3 and O4 shifting to the middle of the court to prevent a break in case the opposition should recover the rebound if the shot is missed.

The second option against this defense is shown in Diagram 3 and Series C. Here O1 must be very alert, and the pass in must be accurate. Any time after the option has been called, either O3 or O4 pass when they are sure they can get the pass in. O1 moves the second the pass starts. If he moves sooner, the timing will be off and the defense will be able to recover in time. O1 takes his first step with his left foot. It is a cross-over step, and should be approximately parallel with O2's right foot. The pass in should be high and above O1's head and very slightly to his right. It should reach him just as his left foot is planted so that his pivot and shot can follow with no break in the rhythm. When the ball reaches O1, O2 makes a reverse pivot, using his left foot as his pivot foot. This

Series D

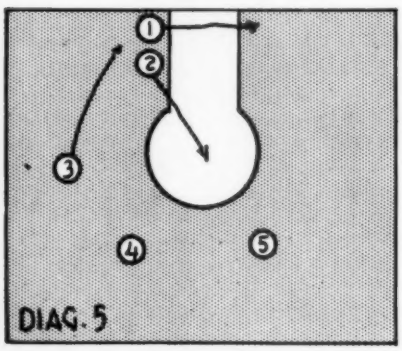


makes it possible for him to screen off O1's defensive man. O3, O4, and O5 follow the same procedure they used in the first option.

For a variation, we sometimes use the option which is shown in Diagram 4 and Series D. Here O3 breaks down and circles behind the post men, being sure not to step outside. O4 must time his pass to O5 so that O5 can time his pass in correctly. If the front line defense is close, or adept at interceptions, O4 uses a reverse pivot before passing to O5. If O3 is open when he comes around, O5 hits him with a pass as he reaches the center of the lane. Uusually, however, O3 is merely a decoy. If O3 is not open, O5 continues on to the corner to clear the path for O1. Since O3 is directly in front of O2, O1, pivoting on his right foot, makes a complete reverse pivot and follows O3, brushing O2 as closely as possible. O5 will hit him as he reaches the center of the free throw lane.

Sometimes, against this defense, the post men can catch their men flat-footed and be open for a jump shot by breaking as is shown in Diagram 5 and Series E. In this situation O2 breaks to the center of the lane and is the logical man to feed. He shoots or passes to O1 or O3 in their new positions. They are also in excellent rebound position if either O4 or O5 takes a set shot.

Series E



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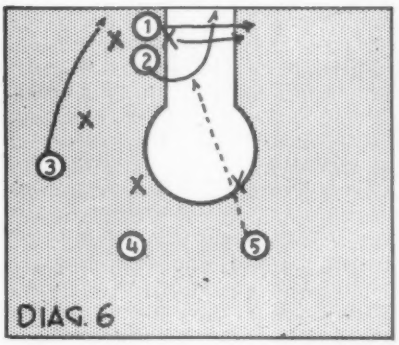
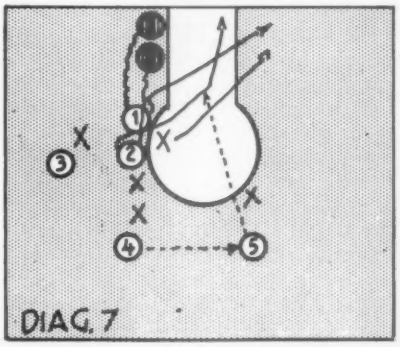


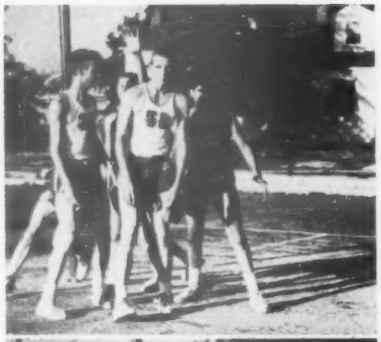
Quite often the defense will shift to the positions which are shown in Diagram 6. O1 signals O2 by extra pressure on his hips. The outside men must be alert. O1 breaks to his left, calling for the ball. Of course, if he is open, the ball should be fed to him. Usually, however, the inside defensive man will cover O1 as he crosses over. If so, O1 leads him clear of the lane, and then O2 breaks across. He is in front of his defensive man and should be open for a lay-up. O5 is in the best position to pass in on this option. O3 comes in for the rebound on his side.

Another defense which is used is shown in Diagram 7. In this case, we move our post men up as is shown. Again, O1 signals when he is going to break, reverse pivots off his left foot, and breaks for the basket. The inside defensive man must cover him, so O1 leads him on out of the play. As soon as the path is open, O2 makes a quarter reverse pivot, using his right foot as the pivot, and is in front of his defensive man for a high pass and lay-up shot.

These are all the options we use against a man-for-man defense. There must, of course, be a check signal to be used whenever the defense has shifted after an option has been called, or if it is wanted for any other reason. We find it easiest to have our quarterback, O4, just call *check*.

Series F





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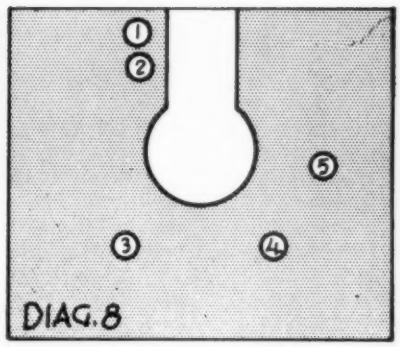


DIAG. 8

Against a zone defense we make a slight change in our formation. This formation can also be used against a deep sinking or checking man-for-man defense, and is shown in Diagram 8.

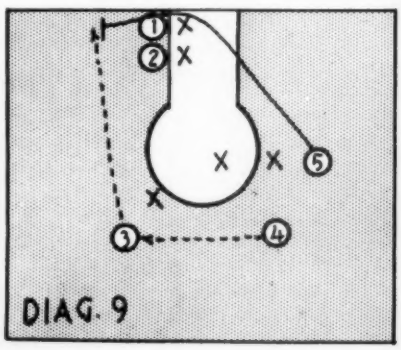
In this formation O5 is the player who is the most accurate on a short, quick shot from the side. O4 is the key man in this formation. He must make a fast, accurate pass to O3 and at the same time make certain the pass is not intercepted. Again, we like him to reverse pivot before he passes, using his left foot as the pivot. O3 is the feeder and he must be able to determine the best scoring opportunity as the situation develops. In this

Series G

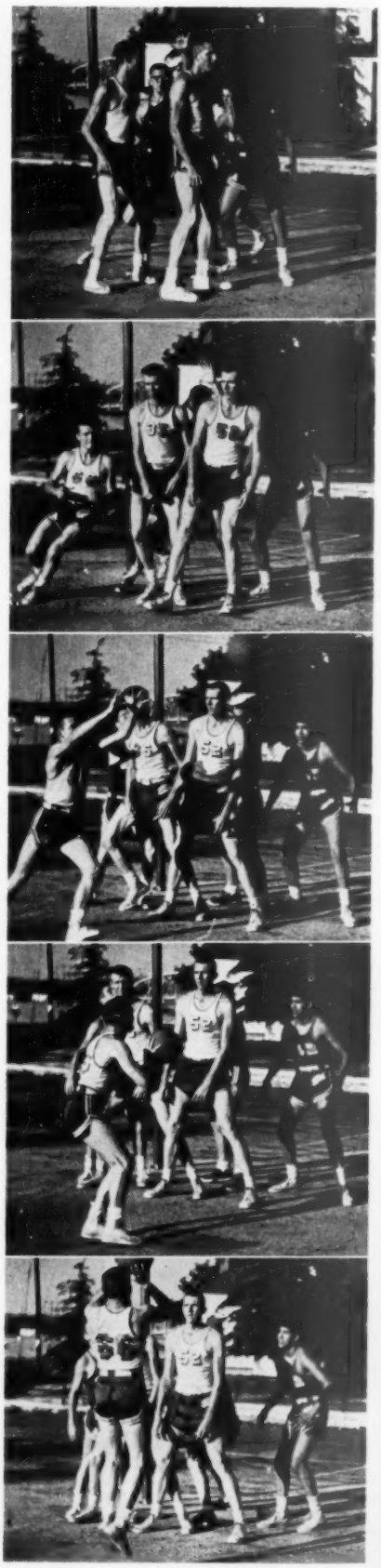
formation O5 calls the option for us.

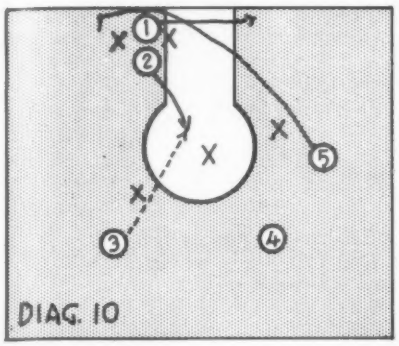
Our first option off this formation is shown in Diagram 9 and Series F. O5 and O4 may pass the ball back and forth a time or two while waiting for the proper timing for a break. When he feels the time is right O5 calls *go*, passes the ball to O4, reverse pivots off his right foot, and breaks behind O1. O4 reverse pivots and passes to **O3.**

Now O3 must be alert to size up the play of the opposition, for the execution from here on out depends upon the deployment of the defense. It is impossible to determine how a zone defense will react against this



DIAG. 9





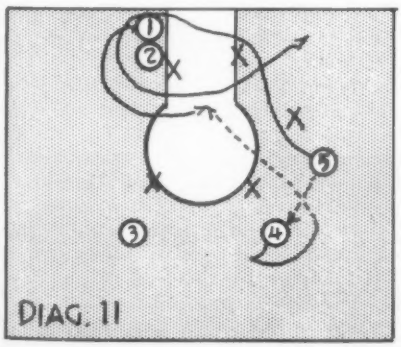
DIAG. 10

formation before the play starts. That is why O3 must have split-second judgment. If the defense plays on the inside of the post men, then just as O5 breaks behind O1, O1 and O2 make a half reverse pivot, both pivoting off the left foot. This pivot should place O2's right foot across and just inside O1's left foot, with both men facing the sideline. They form a very effective screen for O5 to shoot over if he passed close enough behind O1 to brush him. O5 should stop within four, or at the most, five feet after he passes the post men, to make their screen most effective. O3 must be able to hit O5 with a shoulder high pass at the exact moment he stops and turns.

If the defense sets up with a man on each side of the post men, as is shown in Diagram 10, then as soon as O5 passes behind them, O1 and O2 break as indicated. This gives an offensive triangle in the immediate vicinity of the basket. One member of the triangle must be open. Usually, we find O2 is open in the lane and he may either turn and shoot or pass to O1, if the defense comes out to block O2's shot.

The third possibility for the defense here is to have a man cover on each side of the post men, and have one player in the front line sink back to cover O2 when he breaks out. In this case, either O3 or O4, whoever is left open, is in good position for a

(Continued on page 83)



DIAG. 11

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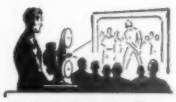

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Rule Blocking

(Continued from page 67)

the 8 hole and blasts out; if not, he checks out on the man over him and cracks in. *Outside tackle*—blocks out on the man over him or on his inside gap for a 2 count and cracks in; if there is not a man over him, he pulls through the 8 hole and blasts out. *Inside tackle*—if there is a man on his nose, he blocks out; if not, he posts the first man inside of him. *Strong-side guard*—pulls to the weak side and traps the first man past the 8 hole. *Center*—posts the man on his nose; if there is no one on his nose, he drives out. *Weak-side guard*—drives in on the man over the center; or he will post the first man to the weak side of the center. If there is a man over the weak-side guard or on his outside gap and two defensive linemen outside, he blocks the man over him or on the outside gap in alone. *Weak-side end*—if there is a man on the nose of the center, he blocks the man over him or the first man inside of him in alone; if there is no one on the center, he drives in. *Wingback*—if he is not involved in backfield action, he cuts inside the closest defensive lineman and cracks the safety in. *Quarterback*—jab steps to the strong side, then leads the play through the 8 hole, and blasts in when he is not involved in ball-handling. Diagrams 28 and 29 show his blocking against a six and a five-man line.

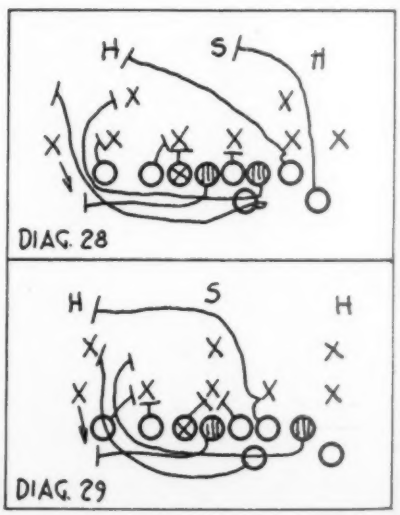
9 Hole Blocking Rules

Strong-side end—pulls to the weak side and leads the play around the 9 hole. *Outside tackle*—if there is a man over, he blocks out for a 2 count and cracks the safety out; if there is not a man over, he pulls to the weak side and leads the play around the 9 hole. *Inside tackle*—if there is a man over him, he blocks him out for a 2 count and cracks the safety out; if there is not a man over him, he pulls to the weak side and leads the play around the 9 hole. *Strong-side guard*—pulls and blocks the first man past the weak-side guard towards our center. *Center*—blocks the man over or the first man outside of him out. *Weak-side guard*—blocks the man over him in; if not, he blasts the linebacker over him or to the inside of him in. *Weak-side end*—blasts the outside linebacker in. *Wingback*—if not involved in ball-handling, he cracks safety out. *Quarterback*—blocks in on the first man outside of our weak-side end. Diagrams 30 and 31 show these rules against a six and a five-man line.

As mentioned previously, we have several ways of hitting four of our holes. The rules for our 3 power hole, which is used for single wing bucks or T quick hitters, will be given.

3 Power Hole Blocking Rules

Strong-side end—drives in on the man over outside tackle; if not, he drives out on the next man outside.



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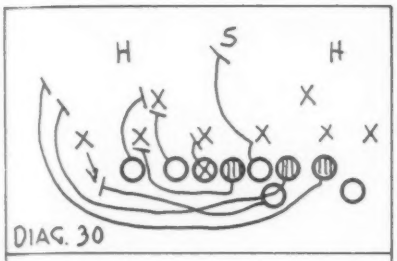
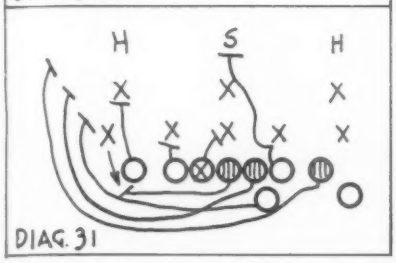
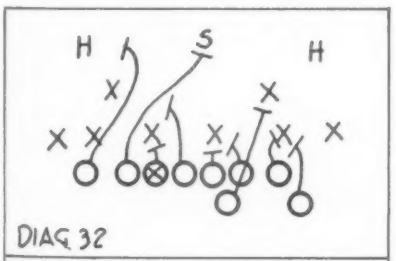
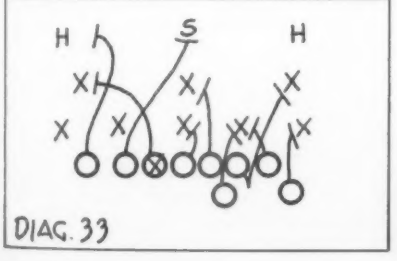




Outside tackle—drives in on the man over inside tackle; if not, he dip steps out and drives out on the man over the strong-side end. If there is no man over the strong-side end, he blasts the nearest linebacker. *Inside tackle*—posts the man over. On T plays he dip steps out and blasts out. If there is no man over him, he blasts the nearest linebacker. *Strong-side guard*— blasts the man over him in; if not, he blasts the linebacker over him or inside of him in. *Center*—blocks in on the man over; if not, he blasts in. *Weak-side guard*—checks the man over and cracks the safety in. *Weak-side end*—cracks out. *Wingback*—posts the man over the strong-side end; if there is not a man over the strong-side end, he blocks out on the man over him. *Quarterback*—if not involved in ball-handling he posts the man over the outside tackle; or he leads through the hole and blasts out. Diagrams 32 and 33 show these rules when single wing plays are run, and





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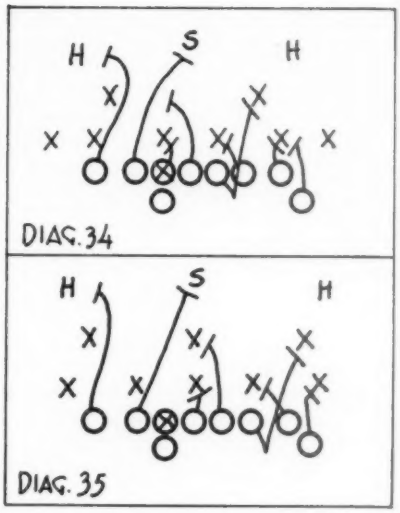

Diagrams 34 and 35 show them when T plays are run against the six and five-man lines.

As stated previously, these rules apply not only to the six and five-man lines as diagramed in all but the 2 hole, but to all the major defenses and their many variations. We feel that rule blocking is well worth the time invested.

Backfield Stunts

(Continued from page 35)

of locked. 3. Missing the tackler with the heel of the hand is caused by the runner taking his eyes off his opponent's headgear.

An outstanding ball-carrier has the ability to start quickly, stop quickly, has better than average speed, and is able to maintain fine body balance while operating at his top speed. Lack of the last quality prevents many fine sprinters from becoming good ball-carriers. A good ball-carrier realizes that he must make maximum use of every available blocker. The path that the ball-carrier selects will determine the ease or difficulty with which his teammates can block successfully for him.

On every play the back who is carrying the ball should be aware of the yardage necessary to make first down. It is a common axiom that the ball-carrier should drive for yards, struggle for feet, and fight for inches. Any time a first down is missed by inches every back who carried the ball in that series of downs should do some analyzing to see if it was within his power to have made a few more inches. Too often first down is missed by inches because the back had his interest focused only upon breaking away for a touchdown.

From Here and There

(*Continued from page 4*)

the tournament. The average winning score was 52 which is less than the average losing score in most other state tournaments. Ted Roethke, winner of the 1954 Pulitzer Prize in poetry, coached tennis at Penn State from 1940 through 1944 and his teams won 28 while losing 26. . . In twenty years the net profit from the Michigan basketball tournaments has increased better than a hundred fold. In 1935 the net profit was $7,127 and this last year's tournament showed profits of $109,586.

Post Offense

(*Continued from page 77*)

deliberate set shot, with the offensive triangle in excellent rebound position.

Sometimes the man on O5 plays man-for-man and the others play a four-man zone. When this happens we use two other options. Diagram 11 and Series G show a play which is similar to the one shown in Diagram 4. O5 breaks behind and around the post men, acting as a decoy to pull the defense out of position. O1 pivots as is shown in Diagram 4, and follows to take a pass from O4. The pass can best be gotten in by O4 reverse pivoting when he takes the ball from O5 as though he were going to pass to O3. This will pull O4's defensive man nearer the middle of the court, and by holding his pivot foot and coming back to his original position with a forward pivot, just as O1 breaks around O2, O4 can easily get a bounce pass in to O1 as he crosses the line.

Diagram 12 shows how we educate the defensive man who plays the play, and who figures to meet O5 back of the screen when O5 starts his break. O5 starts the play as usual, but stops suddenly after the defensive man has committed himself, and takes a pass from O4 for a short jump shot.

These are all the options we use off the vertical post formation, regardless of the defense we are meeting. Of course, we do not figure on using all options against any one defense. We

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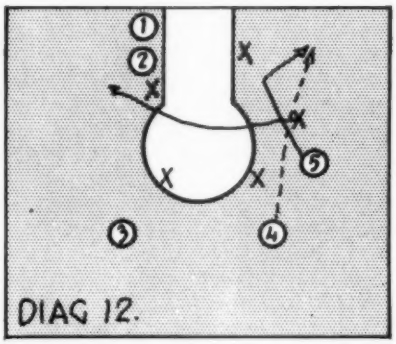

DIAG 12.

have tried to explain them in minute detail, giving each step and pivot, because we know from experience that if they are carried out exactly this way they will work, regardless of whether the post men are 5 feet, 8 inches or 6 feet, 6 inches tall. The only essential is correct timing and the proper execution of the basic fundamentals of passing and pivoting; and without a mastery of these fundamentals no style of play will prove successful. We hear about teams that have won championships on well-rehearsed plays, but no team of *dubs* ever made them work. Fundamentals win ball games.

Varied Offense

(Continued from page 26)

and nervousness are the results.

One of the principles of football is that, if a player cannot carry out his assignment effectively he may wreck the perfect execution of the other 10 players. Many of our boys find no greater pleasure in the game than faking a block and catching a pass or faking and being tackled while their teammate is making yardage. Other boys derive equal satisfaction from intercepting passes, grabbing fumbles, or being the cause of a fumble by an opponent. In other words, if a player persists in the belief that he can cause at least a mental hazard for his opponents, then he probably will. Mental anguish sets itself up for the situation where a player makes his own breaks.

Football a Thinking Game

Often a situation arises where the boys who think and use initiative receive their chance. Many a boy has received a chance to play because he could tell from the bench that opposing guards dropped their legs back when they pulled, the wingback played deeper on reverses, or the fullback was deeper on pass plays.

Because several formations are used,

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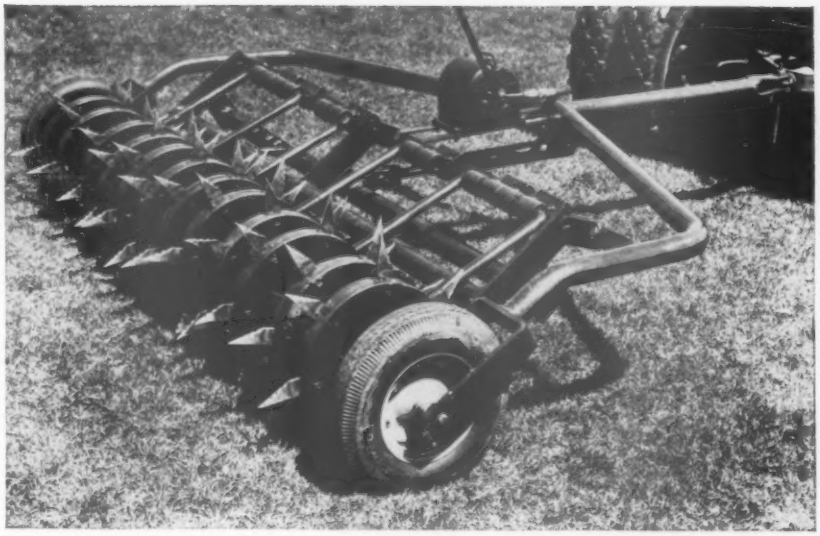
the boys must be constantly learning variations of certain plays. The alert boy goads the lazy or slower learner into positive learning action. As a follow-up on learning, occasionally a mimeographed sheet is handed out. The player lists his position and assignment for any plays asked and answers the questions on the sheet. Many players who believed they were very capable have been brought down to earth because they did not know the assignments or type of block. The medicine is a sure cure for the lax boy.

Our boys all learn to watch for tip-offs and how the opponents are playing; if they are sucking in on certain types of plays, spreading too much, or not carrying through the blocking assignments, then the quarterback is notified and he acts accordingly. After the system is learned the player looks constantly for chinks in the opponents' armor and in addition keeps on his own toes to do better and make sure that he does not fall into slipshod habits. A variety of offenses holds the interest of all the players and precludes the mid-season letdown or overconfidence after winning the big game.

When boys automatically switch their blocking assignments during the game they are thinking and will get the job done better. For instance, in a cross-blocking assignment between a guard and tackle where the opponents are spread, a simple slap on the thigh by the tackle changes this to regular blocking, or, our end may bring back the information that the halfback is not watching his fake and is coming up for the tackle. The proper pass play will then rectify the opposing halfback's mistake for the benefit of our team. The point is that if the players are constantly alert and adjusting to defensive maneuvers they will eventually make their own breaks. A case in point is a recent contest that found the half-time score 7-12 in the opposing team's favor. Because of the information received from the players and the coaches drawings of what was happening at half-time, the boys passed to different halfbacks and ran inside the end with the single wing, T, and double wing. The final score speaks for itself, 32–12.

Easier to Adjust to New Situations

Because they are accustomed to scrimmaging with a variety of offenses and defenses the boys find changing offense no problem. These boys are able to react quickly to split ends, flanking backs, or shifts in the line.



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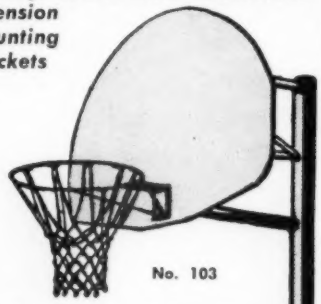

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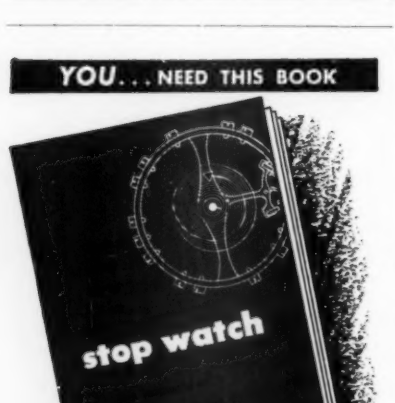

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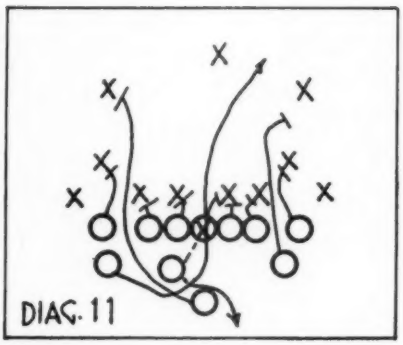
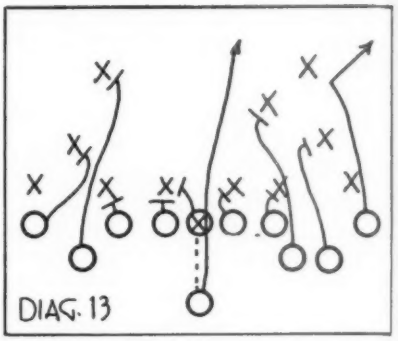




As they react to the change, there is less chance of being caught short. In other systems the alternates have to wait until half-time or time-out to find out from the coach; in fact, in a crucial spot it is generally not even practicable, and in this system it is not necessary.

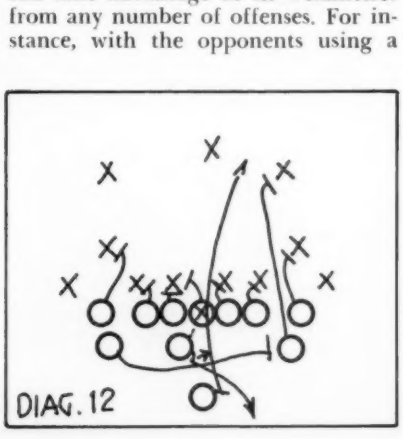
As a variety of offenses are practiced, a variety of defenses are also practiced to counteract the offense, thereby improving both the offense and the defense. The defensive team seldom feels insecure at game time. The boys have been scrimmaging against these offenses all season.

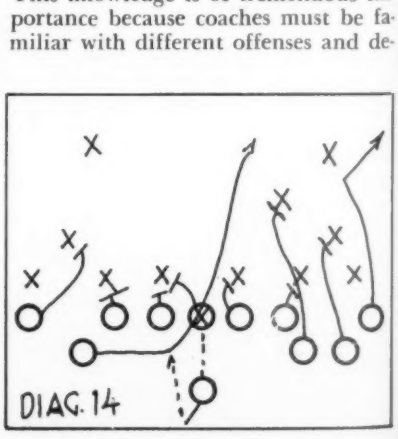
Few situations develop with which the boys are not familiar. While the defense is growing strong practicing against many offenses, the offense is growing strong and versatile through practicing against a variety of defenses. We seldom hear an offensive player say, "but coach he isn't playing where he is supposed to be." When an opponent repeatedly plays the play or plays out of position the quarterback takes advantage of the situation and lets the boy ride or take himself out of the next play. Also, as the players scrimmage against a variety of defensive formations they become familiar with their weaknesses. By using a varied offense the team can practically call their own defense. If the defense will not change, the offense can take advantage of its weaknesses from any number of offenses. For instance, with the opponents using a 6-2-2-1 defense we like to use an unbalanced line, single wing formation.

The majority of high school linemen either undershift or overshift and this sets up reverses and cutback plays to the weak side. Strong-side off-tackle power plays are also utilized from this formation, and we have been particularly successful. The T and split T formations have had little difficulty with a five or six-man defensive line especially on quick-opening plays and pitch-outs. The tight 7-2-2 defensive team may stop a straight running attack but is wonderful to pass against. Here quick passes to the ends in the flat or over the middle; and to the backs in the flat behind the line of scrimmage have proven successful. A pitch-out type pass thrown deep is also utilized. Flanking backs, split ends, and the double wing and spread formations add much to the running game against any type of seven-man defensive line.

To summarize, once a system of varied offense has been used the benefits derived are twofold. That is, both the coaching staff and the football candidates gain in knowledge, appreciation, and execution of the game of football.

The coaching staff gains by an accumulation of facts and fundamentals of all of the phases of the game. This knowledge is of tremendous importance because coaches must be familiar with different offenses and de-





fenses if they are to exploit the offense or defense successfully or defend against any offense. Therefore, an accumulation of information on all phases of the game is vital to the coach. The coaching staff, whether they wish to be or not is well informed and able to prepare, and equally important, disseminate the information gleaned. The result is the coach is neither naive nor does he become indifferent, but each season he actually feels football and thus passes on to his players his enthusiasm.

Football candidates gain by participating in more phases of the game. More personnel is able to participate. Neither the strong, slow boy nor the light, quick-reacting boy becomes a casualty. Each may have his place and be utilized in accordance with previous examples. The personnel who participate are able to use their talents more extensively and intensively. A clever ball-handler may work on that phase, while the plodding, blocking back may polish that phase of the game. Thus, under the varied system, each player may come into his own during the course of the game although not necessarily at the same time nor at the expense of the other. The change from one system to another for those who may transfer or go on to college is easier. Some boys do not receive opportunities to play football in college, not because of lack of ability, but because they are not familiar with the system being used. Under the varied system this is no problem. Finally, this type of football prepares the boy for life after he leaves school. If the candidates can learn to adjust or figure out how to adjust to different situations, then they are much better able to compete with their fellow man outside school.

In conclusion, we feel that a boy who has participated under a varied offense becomes more amenable, adaptable, and versatile in new learning situations. Thus, in finding himself, he is a credit not only to the school and community, but is more important to himself.

Pass Patterns

(Continued from page 6)

teams in the South. A fast boy playing the No. 1 position, was 20 yards behind the safety man who had come up to cover a hooking No. 5.

The plays shown in Diagrams 10 and 11 are rather similar and utilized

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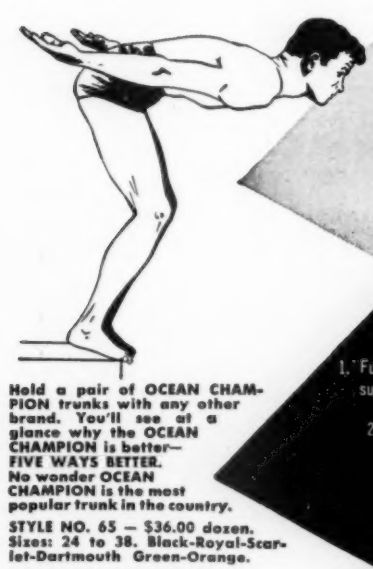

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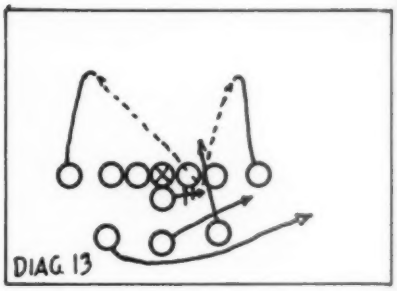
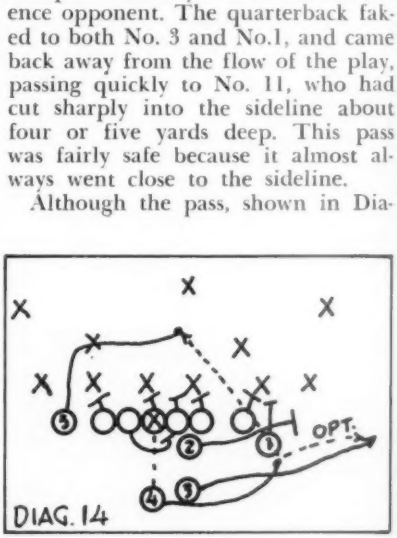


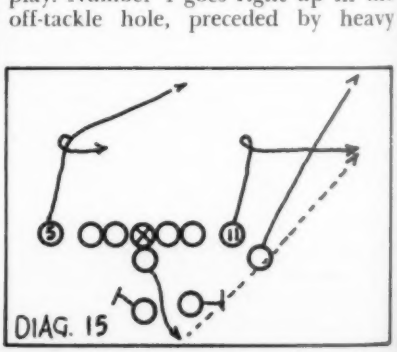
good individual receivers who could cut and go.

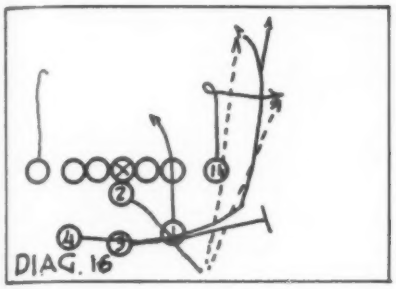
Diagram 12 shows a play which looks simple, but it was one of the best passes used by a Southern Conference opponent. The quarterback faked to both No. 3 and No.1, and came back away from the flow of the play, passing quickly to No. 11, who had cut sharply into the sideline about four or five yards deep. This pass was fairly safe because it almost always went close to the sideline.

Although the pass, shown in Diagram 13, is in every T formation coach's play book, we maintain that it is thrown too seldom. Frankly, it was much easier to plan a workable defense for the T when opponents did not use this play often. For the same reason, single wing coaches should use the fullback jump pass frequently (where the fullback fakes a buck).



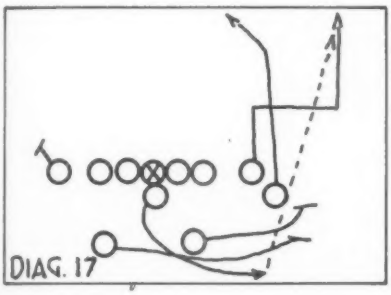
The play which is shown in Diagram 14, is a *toughie* from the single wing, especially if the defense is having trouble stopping the off-tackle play. Number 4 goes right up in the off-tackle hole, preceded by heavy





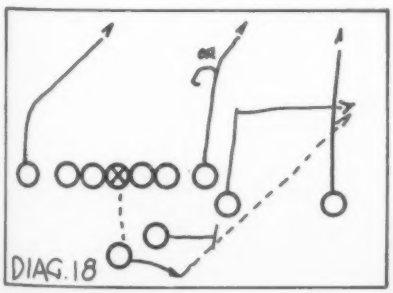
blocking, jumps high off his left foot, and tosses to the left end.

Currently, one of the most common and successful types of forward pass is shown in Diagrams 15, 16, 17, and 18. Every opponent we met during the last three years had a pass which was similar to this one. The most common pass used was very similar to the one which is shown in Diagram 15. The object, of course, is to *suck* the defensive left halfback with No. 1. Number 11 follows and cuts into the unguarded zone. Our



defensive halfbacks had a hard time staying *home* on this one. Even when the safety man picks up No. 1, it is dangerous because No. 5 will now very probably be open.

If a coach has never had to prepare his team to play against the orthodox double wing, he is fortunate. It has a potent, whipsawing, running attack which is aided extensively by a wide-open passing offense. One of our opponents used the orthodox double wing and it was an annual headache. This team seldom sent more than three receivers out (very



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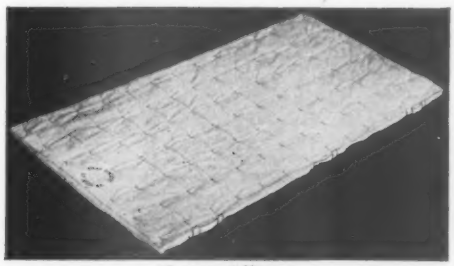

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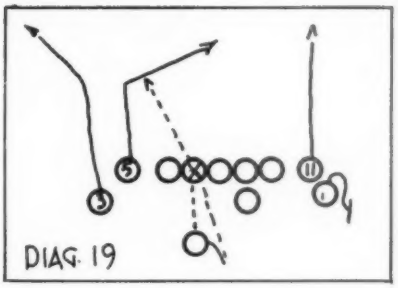
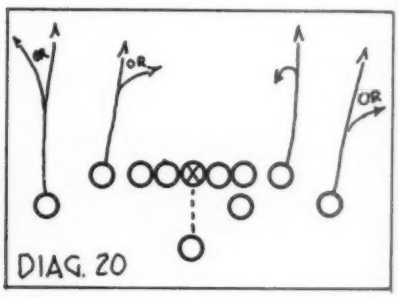
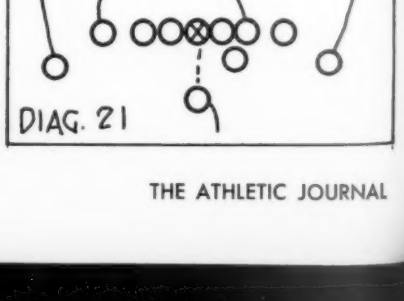


different from the modern passing double wing), but the opponents did not know which three were coming until the ball was snapped. Diagram 19 shows one of this opponent's favorite patterns which appears simple on the surface. However, we did not know in this particular pattern whether No. 3 or No. 1 was going to cross the line. Therefore, at least four defenders had to be ready to go deep in a hurry. Our opponent was most successful in this pattern at hitting No. 5 just as he cut towards the middle.



Diagrams 20 and 21 show some combinations we met from a strong Southern independent team that used the T mainly but also mixed in a passing double wing attack. Frankly, since these passes were not meshed with a potent running attack, we did not fear them nearly as much as the passes in the offense described in the preceding paragraph. However, this attack was potent, when we consider the many receiver paths available.

The second part of this article will appear in the October issue.



Our New Building

THIRTY-THREE years ago this month the Athletic Journal began its first full school year of publishing. However, September 1921 was not the initial issue. Our first issue was published the previous March.

The September issue, like the previous two issues and the succeeding issues during the 1921-1922 school year, were dummied up on the kitchen table in the home of the founder, Major John L. Griffith, in Champaign, Illinois.

The following year the Journal was moved to Chicago when its founder was appointed commissioner of athletics for the Big Ten. Space was rented and after five years the Journal was moved to larger quarters. Subsequently, we acquired additional rental area in the same building and our space was doubled.

Since the war the Journal has experienced its most rapid growth, with the circulation more than doubling and a better than 50 per cent increase in both advertising and editorial material.

Last spring we decided to build our own office building which will be used exclusively for our purposes. Work on the building has progressed ahead of schedule so that by the time the October issue appears we will be operating from our new address which is 1719 Howard Street, Evanston, Illinois.

There will be many advantages to the new building which we are eagerly anticipating. One of these will be our library. Through the years we have acquired what we feel to be one of the most complete athletic libraries. In our present quarters we were unable to expand our library, with the result that many books have not been readily accessible for reference purposes. We want our readers, as in the past, to feel free to consult our library for reference or study.

The completion of our building brings the full realization that it would not have been possible without the support of our readers. From the first issue, when the Athletic Journal was the pioneer in the field, the coaches of America have very generously supported us by subscribing and by purchasing the products listed in our advertising columns.

With our new facilities we hope we will be able to better serve our readers and advertisers alike. We very humbly but gratefully want to thank you and invite you to visit us at 1719 Howard Street, Evanston, Illinois where we will be located after October 1.

In order to expedite the delivery of mail the new address should be used after the end of September.

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SEPTEMBER, 1954

As a service to our readers and for their convenience we list here the advertisers appearing in this issue. Many of the concerns offer free booklets and coaching aids. Simply cut along the perforated rule and mail to:

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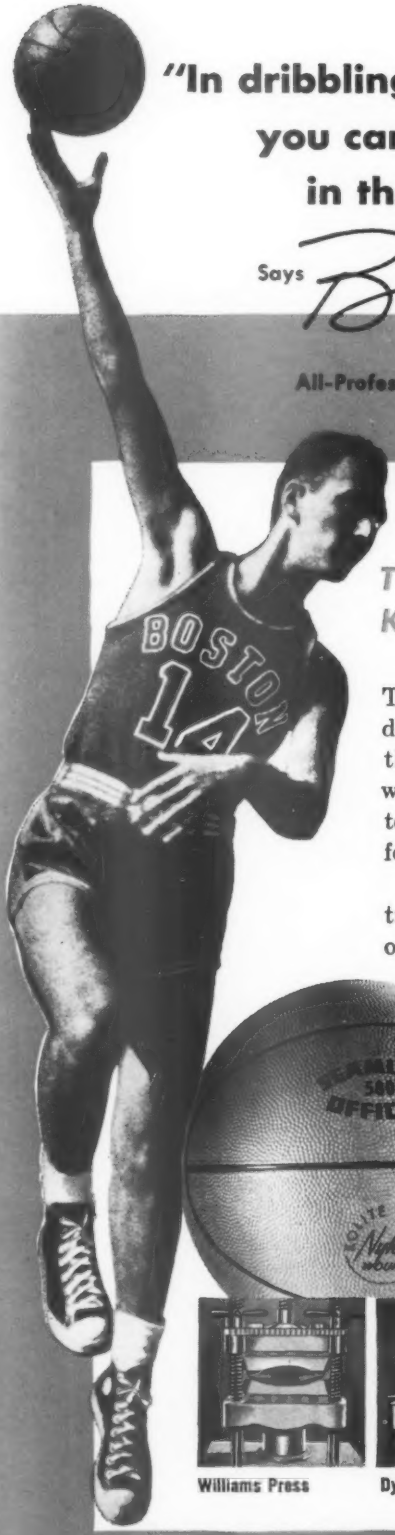

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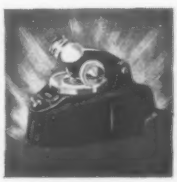

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